THE PREDICTION OF JOB SATISFACTION WITHIN THE CONTEXT OF A THEORY OF WORK ADJUSTMENT

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INTRODUCTION

The daily life of man is composed of things the meanings of which are often hidden in the mystery of their familiarity. Work is one of these.

We have learned to view work as the way in which man defines for himself who he is and what he shall do with his life. The difficulty is, however, that man must increasingly do this in a society that has among its primary purposes, the efficient production of goods and services, rather than the celebration of human dignity (Green in Warnath, 1975).

Furthermore, the society in which we live places a high premium on work. This is clearly visible in the conditioning of the young to the idea of "earning one's living". In other words, they grow up expecting (and expected) to have a job which will provide them with a recognised place in the community (Cohen, 1953). This latter aspect of work is perhaps as important to the individual as any other, including financial security, for to have a job confers status and self-respect. It also provides a standard by which to judge and to be judged by others. For example "what is his job?" or "what do you do?" are regarded as normal questions surrounding introductions, to which the expected reply is a specific occupation (Cohen, 1953; Hughes, 1958 and Karsh, 1959).

Due to the fact that work is not merely an isolated part of our lives, but an integral part of our whole existence (Scott, 1970), it has always played a significant role in the way in which people identify themselves and are identified by others (Berger, no date).

Jaques (1970) stresses this integral relationship as being one of the several important areas of life. This importance he qualifies by stating two main reasons, namely: through work we provide ourselves with our primitive requirements (food and shelter) — in other words it is a matter of existence — while

the second reason (which links with the first) refers to the testing in reality of our ideas regarding our personal capacity. The latter process provides social and economic status.

Apart from the status a job or occupation confers, it also poses many problems to the individual. Perhaps of the more important problems are occupational choice and job satisfaction. According to Tuckman (1968) these two problems are inseparable, for in an attempt to predict occupational choice, one is in effect trying to identify the occupation in which a person will obtain satisfaction or is likely to be satisfied. In order to facilitate this choice, it would thus be desirable to discover some effective way of predicting the occupation(s) in which a person is likely to obtain satisfaction. By implication the prediction of eventual job satisfaction is required.

Lawler (1974) emphasizes the above mentioned statement when he says that organizations must realise the importance of treating individuals differently. Furthermore, they should be placed in environments and work situations which suit their unique needs, skills and abilities. However, organisations become increasingly more complex as soon as people are treated as individuals.

The prediction of job satisfaction has become more and more important, not because satisfaction causes employees to work harder (it actually has a very low relationship to performance), but because of its side effects. For instance, satisfied employees would less likely be absent, less late and less likely to quit. These are costly phenomena to any organization (Lawler, 1974). Management's special interest in this phenomenon is thus not only because of its intrinsic importance, but because of its significant managerial consequences. In fact, most of the interest in job satisfaction has been the result of management's desire to achieve greater employee efficiency on the job.

In spite of management's approach, Lawler (1974) feels that one of the main reasons why job discontent occurs, is because two practices are noticeably missing in selection programmes of

most organizations. Firstly, most selection programmes ignore the issue of whether the individual will or will not be satisfied in the job. This results in unsatisfying job placement and high turnover. This stems from the fact that ability assessment is emphasized above anything else. The second conspicuous omission in most selection programmes is that of information designed to help the job applicant decide whether he can do the job and will it be satisfying. Therefore the applicant does not have a clear picture of what his job entails. He thus starts work with unrealistic expectations and is often quickly disillusioned. The result is rapid and costly turnover.

Having pointed out the missing practices and the consequences of each, the following question arises. What kind of information should applicants receive?

Again Lawler (1974) suggests that applicants should be furnished with:

- the results of job satisfaction surveys (within the organization)
- employee descriptions of prospective supervisors
- data on turnover and grievance problems, and
- feed back on the results of psychological tests.

The argument underlying this viewpoint is that, given accurate information, applicants are able to determine with some precision whether particular job situations will fit their needs and abilities (Lawler, 1974). Variables thus brought into consideration are the individual's needs, his abilities and information regarding the work itself.

Studies and surveys on job satisfaction and all its facets are numerous. Most professional publications today contain at least one article dealing with motivation, job performance, productivity, job satisfaction and/or a combination of these (Scanlan, 1976). Many articles cite and describe numerous research studies which support or repute a particular point of view. There is no doubt that these articles are valuable additions to the literature, but unfortunately they often have a

confusing effect on the reader.

The purpose of this study is not to go into detail with regard to the various facets of job satisfaction and its components, but to concentrate on the prediction of job satisfaction within the framework of the Theory of Work Adjustment.

This teoretical framework was developed by researchers at the Industrial Relations Center at the University of Minnesota, Minneapolis, U.S.A. It presents a model relating individuals and work, in which the work environment is described in terms that parallel work-personality dimensions (Dawis and Lofquist, 1976).

The major sets of variables used in this theory are abilities and needs (to describe the work personality), whilst ability requirements and reinforcer systems (need satisfying conditions) describe the work environment. The concept of work adjustment refers to the continuous and dynamic process by which the individual seeks to achieve and maintain correspondence with his/her work environment (Dawis and Lofquist, 1975).

CHAPTER 1

WORK AND MAN

Before an attempt is made to relate the individual to the work environment, it is necessary to have a closer look at work itself. In order to accomplish this, work is firstly viewed in historical perspective and then seen in terms of what it holds for the future. The moderating role of work (and by implication the work environment) comes clearly to the fore in the meaning(s) the individual attaches to it.

1.1 WORK IN HISTORICAL PERSPECTIVE

Although much has been written on the history of the meaning of work (Bass and Barrett, 1972; Best, 1973; Borow, 1964; Braude, 1975; Cohen, 1953; Gilbert, 1973; Lofquist and Dawis, 1969; Macarov, 1970; Morrison, 1972), Alan Fox (1971), nevertheless concludes that no adequate history has yet been written. He, however, views Adriano Tilgher's study (1930) as an excellent illustration of how meanings have shifted along with changes in the social order.

1.1.1 The Greeks

To the ancient Greeks, in whose society mechanical labour was done by slaves, work was nothing but a curse, a punishment and a necessary material evil (Wright Mills in Best, 1973; Lofquist and Dawis, 1969). Their name for it - ponos - was coloured with the sense of a heavy burdersome task.

To them work symbolized the limitations imposed on man. This was in contradiction to the relative ease of the eternal gods of the Hellenic partheon. In the Greek view, virtue - that is, prudence, morality and wisdom - was of cardinal importance and directly proportional to the amount of leisure available to the person. He who had to work, could not acquire virtue (Braude, 1975; Wolfbein, 1971).

According to Homer mankind was hated by the gods and was thus condemned to labour out of spite. Although most Greek philosophers thought agriculture to be tolerable for man, because it could bring livelihood and independence, they strongly disapproved of the mechanical arts because of its degrading effect on the mind. In general, the Greeks, like the Romans to follow, saw work as a painful, humiliating necessity (Wilensky in Becker, 1966).

1.1.2 The Hebrews:

The Hebrews also looked upon work as "painful drudgery", to which they added that it was man's condemnation for sin. They felt that man was obliged to work in order to expiate the original sin committed by his forefathers in the earthly Paradise. Although work was considered a "hard necessity", man could in this way atone for the sin of his ancestors and so regain his own lost spiritual dignity (Nosow and Form, 1962).

The Hebrew and Greek themes, together with Roman thoughts on the subject, were eventually woven into a Christian conception, which dominated the European world of the Middle Ages (Braude, 1975).

1.1.3 Primitive Christianity:

For primitive Christianity, work had no intrinsic value or importance but could be of use in promoting a healthy body and soul, thereby making possible the virtue of charity and also guarding against "evil thoughts and habits" (Fox, 1971).

Similar to the Hebrew view, work was regarded as a punishment, imposed by God, because of man's original sin. But to this view they added a humanitarian element, namely, the sharing of one's good fortune with those in need (Wilensky in Becker, 1966; Nosow and Form, 1962; Wright Mills in Best, 1973).

1.1.4 Early Catholicism:

Early Catholicism added a new value to work - a kind of spiritual dignity. Pure passive contemplation was the "work" most honoured by early Catholicism, namely, a meditating of the world to come. Related to this was the increased tolerance for intellectual activities, such as reading and the copying of manuscripts (Wilensky in Becker, 1966).

During the period between the eleventh and fourteenth centuries, Catholicism began to grant a larger place (and thus status) to labour. This gradual shift in view more or less coincides with the view of the Catholic Church of today, whereby work is regarded as a natural right and duty, forming the legitimate base of society, as well as the foundation of property and profit (capitalism). It, nevertheless, will always remain a means to a higher spiritual end (Wilensky in Becker, 1966; Nosow and Form, 1962).

As the centuries passed, the view of the Catholic Church accordingly shifted. This shift was to a great extent influenced by the economic practice of the industrial and commercial Italian republics. Idleness and extravagance were condemned while activity and industry were praised.

Along these lines the Catholic theory of work continued during the centuries to follow. The end of the nineteenth century and the beginning of the twentieth, saw the orthodox movement, known as Christian Democracy or Christian Socialism, proclaiming labour as the foundation of all human progress and work to be a duty imposed both by divine and human laws (Nosow and Form, 1962).

1.1.5 Protestantism:

Similar to the transformative effect it had on the Chris=

tian view (with regard to religion), Protestantism also trans= formed the Christian orientation towards work. Gilbert (1973) describes this as a "momentous change" in the Western view of work and attributes it to the Protestantism reformers, of whom Luther, Calvin and Zwingli were the most important.

Protestantism was the force that established work in the modern mind as the "base and key of life". The well-known Martin Luther said that work is natural to fallen man, but he also added that all who can work, should do so (Parker, 1971; Wright Mills in Best, 1973).

The so called Protestant Ethic - the phrase often used to refer to any work ideology which dignifies work - tried to enrich work with religious dignity, by defining it as a "vocation" or a "calling". According to this view, each person is to serve God best by doing that which he/she is trained for, to the best of his/her ability, regardless of earthly rewards (Lofquist and Dawis, 1969; Macarov, 1970).

Luther played an important role in the abolishing of distinc= tions between "religious" work and all other forms of work. To him, the farmer was just as much carrying out God's will as was the monk. For the first time in history work became a universal basis for living, a basis enriched by religious dignity (Borow, 1964).

John Calvin was the author of the next step in the development of the modern concept of work. He expanded on the ideas of Protestantism, by adding his idea of "predestination". Accord= ing to this view only a small part of mankind is to know ever= lasting life. In addition, idleness and luxury are deadly sins. Calvin further believed that all men, be it the rich or the poor, must work, because it is the will of God. But it is not God's will that one should lust after the fruits of one's own labour (Wright Mills in Best, 1973; Cohen, 1953; Macarov, 1970; Parker, 1971).

For Calvin, the work required of man by God included profit-making

work, provided the profits were not kept, but were re-invested in order to provide more work. An extention to this view was that one would move from class to class, move anywhere and into new vocations, with the reservation that it should lead to more profit, which could then be used in the advancement of the king= dom of God. The value attached to hard work, the need for all men to work, the justification of profit-making - all contributed towards the foundation of modern industrialism and capitalism (Borow, 1964).

It is generally believed by historians that the ideas of the Protestant reformers influenced the development of capitalism. This is also the view of Max Weber in his work The Protestant Ethic and the Spirit of Capitalism.

Weber observed that the rise of Protestantism and capitalism co- incided in England and several other European countries. Weber thought the working Protestant girls to be more hard working than their Catholic sisters and also that the former were more thrifty where money was concerned. Accordingly Protestant en= trepreneurs did better than the Catholic ones. Weber's expla= nation for this tendency was that certain Protestant ideas en= couraged capitalistic activities (Argyle, 1974; Scott, 1970).

Referring to the shift in attitude that had taken place, Wilen= sky (in Becker, 1966) points out that since the Greeks have ex= pressed their scorn for toil and drudgery the doctrines have shifted to such an extent that by the nineteenth century it had almost become a secular religion.

During the twentieth century a gradual waning in the importance of work took place as a result of technological advances. On the other hand, however, there was an increased interest in the "worker" - the humanistic side being accentuated. The latter resulted in intensified research into the behavioral sciences.

1.2 THE MEANING OF WORK TO THE INDIVIDUAL

Dramatic social and technological changes have altered the struc= ture and style of work and, to some extent, its meanings. It

would, however, be a mistake to conclude that such changes or transformations have diluted the significance of work for the individual and for the social order (Borow, 1964).

The meaning of work and the motives which induce people to work have undergone considerable change over the centuries, thereby becoming more complex. The exception to the rule might be the economically underdeveloped societies, where work may be motiva= ted by nothing else than the need for basic survival. Bass and Barrett (1972) regard these motives as extremely important, especially in our era, where the options concerning the amount and type of work are the greatest in history.

Most of us are so busy and trapped in our daily activities, that we tend to take our work for granted. We work every day and week after week without thinking seriously about work as such (Thomp= son, 1963). Anderson (1964) shares this view when he says that few men concern themselves with the whys and wherefores of work - there is no reason why they should. That is the task of the philosophers who write about work and the workers.

Vroom (1964) states that people are more likely to wonder about issues such as why people do mountaineering, drive sports cars or commit suicide, than to question the motivational basis of the decision to work (thus implying that work must have a mean= ing to the individual).

In any primitive society the meaning of work is seldom analysed. Instead, it is simply thought of as "fatigue" and "drudgery". Work in such a society is taken for granted, survival being the only aim. Asking people in such a society why they work, is, according to Wrenn (in Nosow and Form, 1962), like asking them why they stay alive.

But what is the meaning of work in modern society? Thompson (1963) says that work forms such an important part of our lives, that it would be profitable to introspect a little about what work means to us, the satisfactions and dissatisfactions which result from our daily jobs, what life without regular work would be like and so forth.

Thompson suggests we ask ourselves questions like:

- do I look back upon the past week's work with a feeling of accomplishment, of having done worthwhile tasks well, of having made a contribution to society?

OR

- am I relieved that another week has finally passed - a week of drudgery, a week of meaningless duties engaged in grudgingly, of activity continued only through force of willpower, or fear of consequences if neglected?

- what does my job mean to me beyond the pay I get for it?

- why do I (and millions of others) spend nearly half my waking hours on my job?

Depending on various variables, such as the structure and doctrine of the society in which the individual functions (Thompson, 1963), different answers will be given to these questions.

Best (1973) and Bryant (1972) circumscribe the various variables, by referring to aspects such as:

- one's standard of living
- lifestyle
- political ideology
- value-system
- choice of friends and spouse
- mode of child rearing.

To this list Anderson and Bodden (in Cull and Hardy, 1973) add the influence of urbanization, industrialization and, during recent times, automation.

Not only will these variables determine the way in which Thompson's (1963) questions will be answered, but are they also in themselves, to a certain extent, the result of one's work speciality.

Social critics have often referred to modern work as having no meaning (Guion and Landy, 1972), thereby resulting in worker apathy. But has this stage been reached? If so, then what is the cause? What causes work to become meaningless? Questions like these can be asked ad infinitum and once again various answers will be given by different people, even by the same individual at different times.

Reviewing literature on the topic, perhaps the best summary regarding the function of work, is offered by Friedman and Havighurst (1954). They view work as having five basic functions, namely:

- providing income or economic return
- regulating the worker's pattern of life-activity
- identification of the person in his group - the job being a description or tag
- fixing of patterns of association - worker must relate in some fashion to the other members of his group
- offering the worker a set of meaningful life-experiences.

These five functions are general characteristics of work and are to be found in any situation defined by society as a "job" (or any other preferable term). Friedman and Havighurst, however, point out that although any specific work has this same set of functions for all workers, it does not necessarily have the same meaning for all individuals.

1.3 THE FUTURE OF WORK

What conclusions, if any, can be drawn from the vast and still growing amount of data about man in relation to his work? What implications are there for the future?

Prediction is at best, a risk in a rapidly changing world. There are countless determining factors, extraneous variables, many of which are still undefined. This is further complicated by the scope covered by the future of work, which is almost as wide as the future of humanity itself (Best, 1973).

One obvious conclusion which can be inferred, is that work as such has been an integral part of man's existence and a primary source of motivation. There is little reason to believe that it will become less important as a life motivation in the very near future (Thompson, 1963).

Patti Maurer (1971), when presenting a paper at a symposium on "The Skill Continuum from Play to Work" at the Walter E. Fernald State School in Boston, U.S.A., said that work will probably con= tinue to be an important part of adulthood, perhaps with less time spent on it and with consequent emphasis on leisure. Added to this, may be the tendency for work to become more satisfying, although it might then accentuate the gap existing between those jobs which are intrinsically rewarding and those which are not.

It is important to remember that in the future the effects of work activities upon our lives will be as important as they are today. Added to this will be the dynamics of change. Tomorrow's work will be different and it will constantly change. It will not only determine the routine and goals of our lives, but it will also increasingly alter these routines and goals (Best, 1973).

CHAPTER 2

THE INDIVIDUAL AND THE WORK ENVIRONMENT

The foregoing chapter afforded a brief insight into what work entails. This chapter deals with social problems that arise from work, the need for a psychology of work and the interaction between the individual and his work environment.

In the latter case an effort will be made to describe the individual and his environment in relatable terms, thereby linking it to a theory of work adjustment, which will be discussed in a subsequent chapter.

2.1 SOCIAL PROBLEM AREAS

Many of the social problems we currently experience are intimately bound up and woven into work (Lofquist and Dawis, 1969).

These social problems are clearly visible in broad problem areas, such as unemployment, automation, retirement, disability and poverty. These problem areas, which are of both national and individual concern, manifest themselves, in the case of the individual, the family and the employer, in the form of difficulties with vocational choice, selection and placement, employee morale, boredom and monotany, turnover, and so forth.

It is with these problem areas in mind, that Lofquist and Dawis (1969) stress the development of a psychology of work. To them, the many problems which surround work (including matters such as vocational choice, job finding and work adjustment) call for a systematic study of and approach to human behaviour, as it relates to work.

What is needed, is the provision of adequate aids for the practice of vocational counselling. A prerequisite to the preceding is a more detailed description of the individual in work-relevant terms. This requires a more complete description of

occupations and in terms which relate to the individual and his work-relevant problems. Also needed, is a systematic method of relating the characteristics of individuals to information regarding occupations - a view shared by Tuckman (1968).

According to Lofquist and Dawis (1969) such a psychology of work also requires investigation of psychological principles as they function in worker behaviour, as well as the application of psychological concepts in order to understand the nature of work problems and the eventual solution thereof. Also necessary, is a theoretical framework enabling one to conceptualize the development of the individual as a person ready for work and as a working person, as well as the individual's adjustment to work and the effects of having chosen certain occupations.

With these factors in mind, Lofquist and Dawis and their colleaque, England, set to work, formulating a theory of work adjustment, whereby they hoped to make a contribution to a psychology of work.

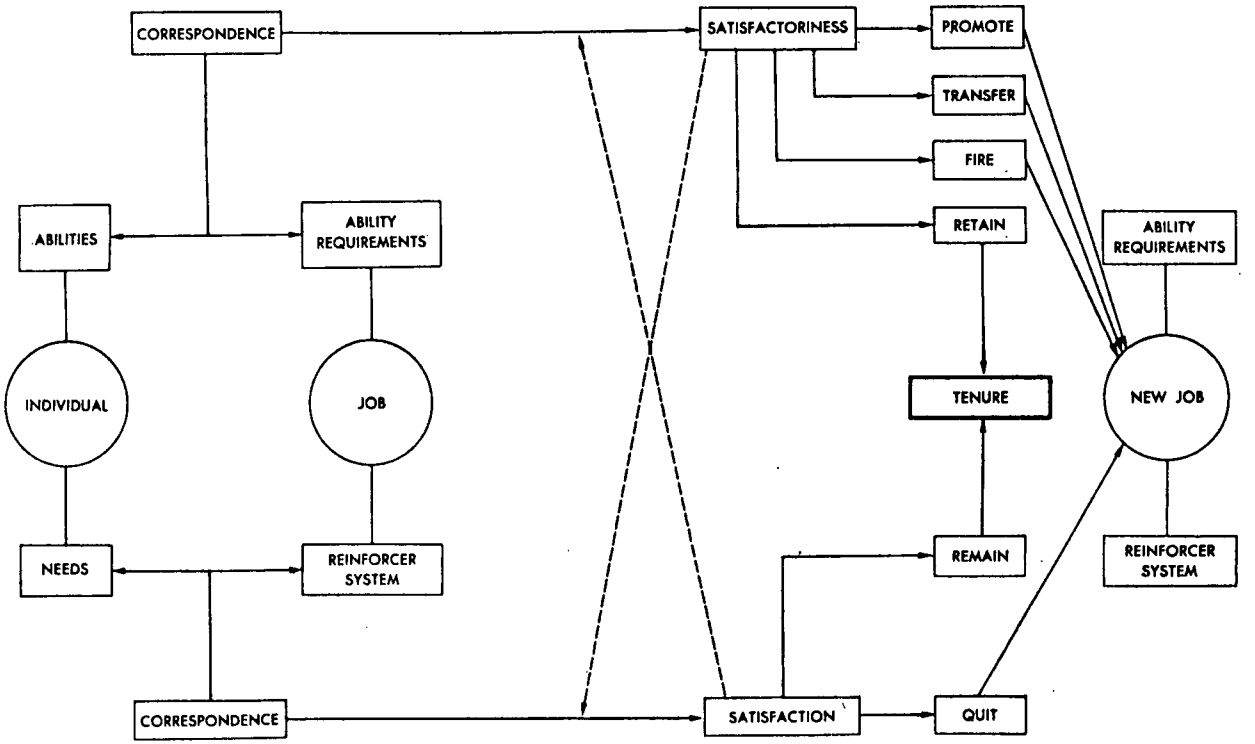
Before viewing the interaction between the individual and his work environment and the description of the latter in work-relevant terms, a very brief summary of the principles of the Theory of Work Adjustment will be given (detailed description to follow in subsequent chapter). This is done in order to facilitate the understanding of the above mentioned in the context of the theory.

2.2 BRIEF SUMMARY OF THEORY

The Theory of Work Adjustment (Dawis, England and Lofquist, 1964; Dawis, Lofquist and Weiss, 1968) provides a model for conceptualizing work adjustment as a continuous process, by which the individual and his work environment meet each others' requirements. The model focuses on the description of (refer to figure 2.1):

- the individual's work personality in terms of abilities, vocational needs and personality style dimensions;

Figure 2.1 THE PROCESS OF WORK ADJUSTMENT



Adapted from Lofquist and Dawis, 1969: p.54.

- and, work environments in terms of ability requirements, need-satisfying conditions (work reinforcers) and environmental style dimensions (Lofquist and Dawis, 1975).

This theory uses the correspondence (or lack of it) between the work personality and the work environment as the principal reason or explanation for observed work adjustment outcomes (satisfaction, satisfactoriness and tenure - terminology to be explained; also refer to glossary). The theory further states that vocational abilities and vocational needs are the significant aspects of the work personality, while ability requirements and reinforcer systems are the significant aspects of the work environment. And finally, work adjustment is predicted by matching an individual's work personality with the work environment (Weiss, Dawis, England and Lofquist, 1967).

Referring to figure 2.1, it can be seen that, depending on the degree of correspondence (either high or low) between the abilities of the individual and the ability requirements of the work environment, the individual may, for example, be promoted if he/she is found to be satisfactory.

Similarly, the individual will either quit or remain in the work environment, depending on the degree of satisfaction (and thus correspondence) stemming from the match between the individual's needs and the reinforcer system of the work environment.

2.3 INDIVIDUAL-ENVIRONMENT INTERACTION

The importance of congruence between man and his environment is one of the most important themes in current psychological research (Betz, 1968).

For decades psychologists have believed that behaviour is determined by the interaction of the individual and his environment. However, till recently psychologists were more concerned with individual difference variables than they had been with environmental variables (Argyris in Domm, Blakeney, Matteson and Scofield, 1973; Downey, Hellriegel and Slocum,

1975; Warren, 1970).

Schaffer (1953), who made a study of job satisfaction as related to need satisfaction, mentions that early research by psychologists and researchers of other disciplines was directed at determining relationships between various psychophysical and physical characteristics and productivity. Typical variables selected for investigation were aspects such as noise, light, fatigue, hours of work, etc. Schaffer views this early research as taking a natural course, since much of the impetus at that time was provided by the scientific management movement, the latter being associated with men like Taylor and Gilbreth.

However, the Hawthorne studies, which began in 1926, shifted the emphasis from the physical to the emotional aspects of worker behaviour. Following these studies, social scientists in the 1930s set their minds to understanding the human factors operating in the work environment, especially those related to worker adjustment and job satisfaction.

Rush (in Domm et al., 1973) is uncertain as to whether this shift in approach to the worker was out of altruistic concern or due to other variables. He mentions that many social pressures, for example, the rise and power of organized labour, the employers' obligation under workmen's compensation laws and the ever-increasing industrial competition, may have had an influence in "forcing" this shift, whereby companies took a closer look at their relationships with workers.

Rush concludes that apart from outside pressures and influences, management gradually began to realize that in a competititve free-enterprise economy, its only permanent advantage lay in its human resources. This growing realization by management resulted in intensified inquiries into the hows and whys of human behaviour.

Viteles (in Desmond and Weiss, 1973) was one of the earliest contributors to empirical research in the field of vocational psychology. His work on the development of the job psychograph provided the foundation for a conceptual man-job matching model.

This job psychograph was a graphic profile of the amount (degree) of selected "mental traits", which were considered essential for success in a particular job (Weiss, Dawis, England and Lofquist, 1965). This matching model resembled the work done by Parsons (in Lofquist and Dawis, 1969), but was limited to the description of ability requirements (also refer to Appendix A).

Frank Parsons (in Tinsley and Weiss, 1974) was actually the first man to direct the attention of psychologists to the problems of vocational choice. According to him, successful vocational choice required a clear understanding of the aptitudes, abilities, interests, ambitions, resources and limitations of the worker. In addition, a knowledge of the requirements for success, advantages and disadvantages, compensation, opportunities and prospects of different jobs was also necessary. Thirdly, and most important, a knowledge of the relationship between the two sets of information was required.

Tinsley and Weiss (1974) further mention that many contemporary vocational theorists have expanded Parsons' model and postulated a correspondent relationship between characteristics of the individual and the work environment. Examples are: Ginzberg, Ginzberg, Axelrad and Herma 1951; Holland, 1966; Lofquist and Dawis, 1969; Roe, 1956 and Super, 1957.

The importance of this interaction and the current attention it enjoys, led to several probing research studies, e.g.: Coburn, 1975; Downey et al., 1975; Lawler, 1974; Pervin, 1968; Seybolt, 1975; Smart, 1975 and Tuckman, 1968. All these and other related studies stress the interaction between the individual and his environment, resulting in matching the right man with the right job, in order to maximize job satisfaction and resulting productivity.

Having viewed the importance of individual-environment interaction, the individual and his environment will now be discussed in relatable terms, within the context of the Theory of Work Adjustment. Thereby the interaction between the two variables will be made more explicit.

2.4 THE WORK PERSONALITY

Since the 'discovery of man' in the eighteenth century, human science has been increasingly concerned with helping man achieve self-fulfillment (Super and Bohn, 1970). With the latter in mind, there has been increased concern for the development and improvement of instruments, for making the study of individual differences and the understanding of human behaviour possible.

One view held by psychologists as an approach to the understanding of human behaviour, is that the individual is a responding organism (Lofquist and Dawis, 1969). As such he responds in a variety of ways to different environmental conditions, i.e., to sets of stimuli or to stimulus conditions. Furthermore, he may respond differently at different times to what appears to be similar stimulus conditions. While some of the responses appear to be reactions to the environment, others seem to be actions on the environment. This relates to Pervin's (1968) view that individuals vary in their sensitivity to different stimuli and in the nature of their responses to these stimuli.

As a responding organism, the individual is assumed to have a set of response potentials, the upper limits of which, with respect to range and quality, are presumably determined by heredity (Dawis, England and Lofquist, 1964). In this view, the individual will respond to stimuli when his response potentials make responding possible, and when the environment permits and/or stimulates responding.

According to the Theory of Work Adjustment, the work personality is described by two sets of dimensions: abilities and needs (Dawis and Lofquist, 1975; 1976). In addition, the

theory also states that the responses most frequently utilized by the individual, become identifiable as a primitive set of "abilities" (Dawis, England and Lofquist, 1964).

As the individual responds, his responding becomes associated with reinforcers in his environment. These reinforcers (which will subsequently be discussed in fuller detail) can briefly be described as "environmental conditions which maintain responding", that is, they are associated with the continuance of responding. The reinforcers in the environment which occur most frequently in the reinforcement of the individual's responding, become identifiable as a primitive set of "needs" (Dawis et al., 1964). These primitive sets of abilities and needs together represent the beginnings of the individual's work personality (see figure 2.2).

As the individual grows, his sets of abilities and needs also grow and undergo change. New abilities and new needs may be added to the existing sets. Some abilities may even be "utilized" more frequently by the individual than others. Similarly, some reinforcers may occur more frequently in the reinforcement of responding than others.

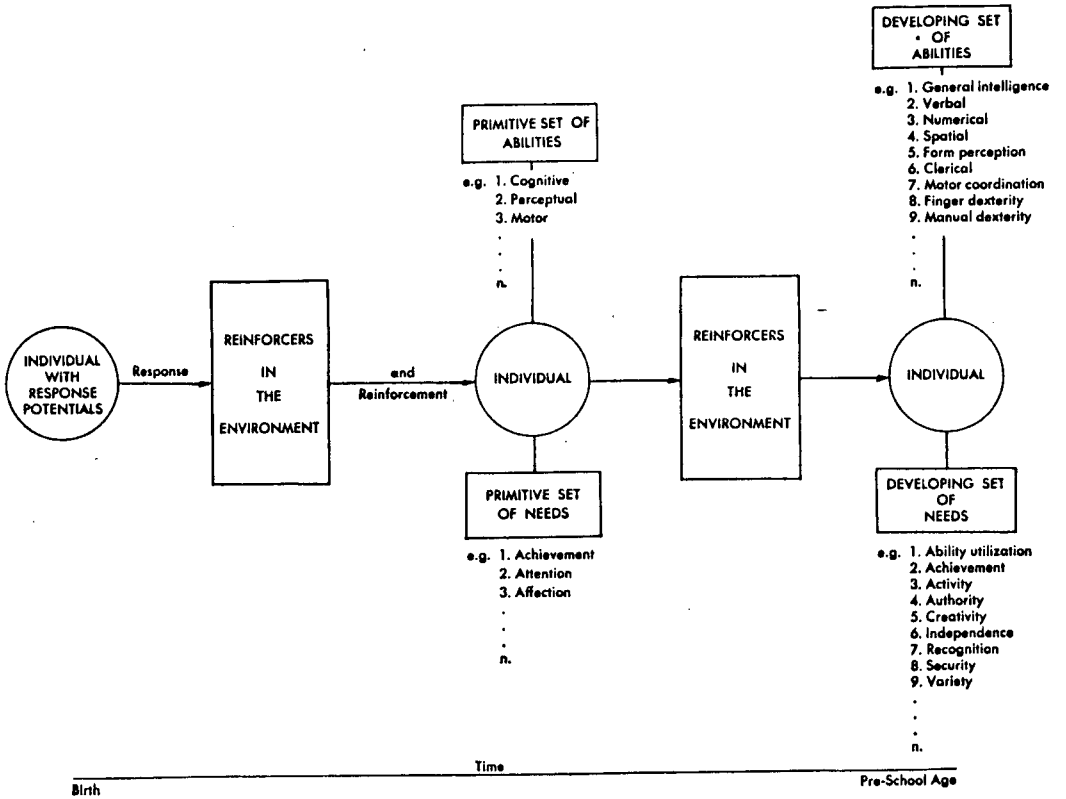
Dawis et al. (1964) further state that certain abilities and needs grow faster in "strength" than others, where "strength" refers to the quantification of abilities and needs, meaning "speed" or "power" in the case of abilities and "reinforcement value" in the case of needs.

The strength of a particular ability, relative to other abilities, will depend on:

- the response potential of the individual
- previous opportunities for responding, and
- the relative reinforcement value(s) of the reinforcer(s) associated with his responding.

The strength of a particular need, relative to others, will depend on:

Figure 2.2 INCEPTION OF THE WORK PERSONALITY



Adapted from Lofquist and Dawis, 1969: p.51

- the frequency with which the reinforcer has been associated with the individual's responding, and
- on the relative strength of the ability with which the reinforcer has been primarily associated.

Because of differing social-educational requirements, the individual experiences differential utilization of his abilities. This may result in a set of more specific abilities operating at different strengths. The same happens in the case of needs because of the individual's experiences with different social-educational reinforcer systems.

This differentiation of ability - and need sets over time, results from the varying levels of correspondence between the individual's ability and need patterns and the requirement - reinforcer systems to which the individual is exposed.

These sets of abilities and needs become more specific as the individual persists in a particular "lifestyle", with its own relatively fixed set of requirement - reinforcer conditions.

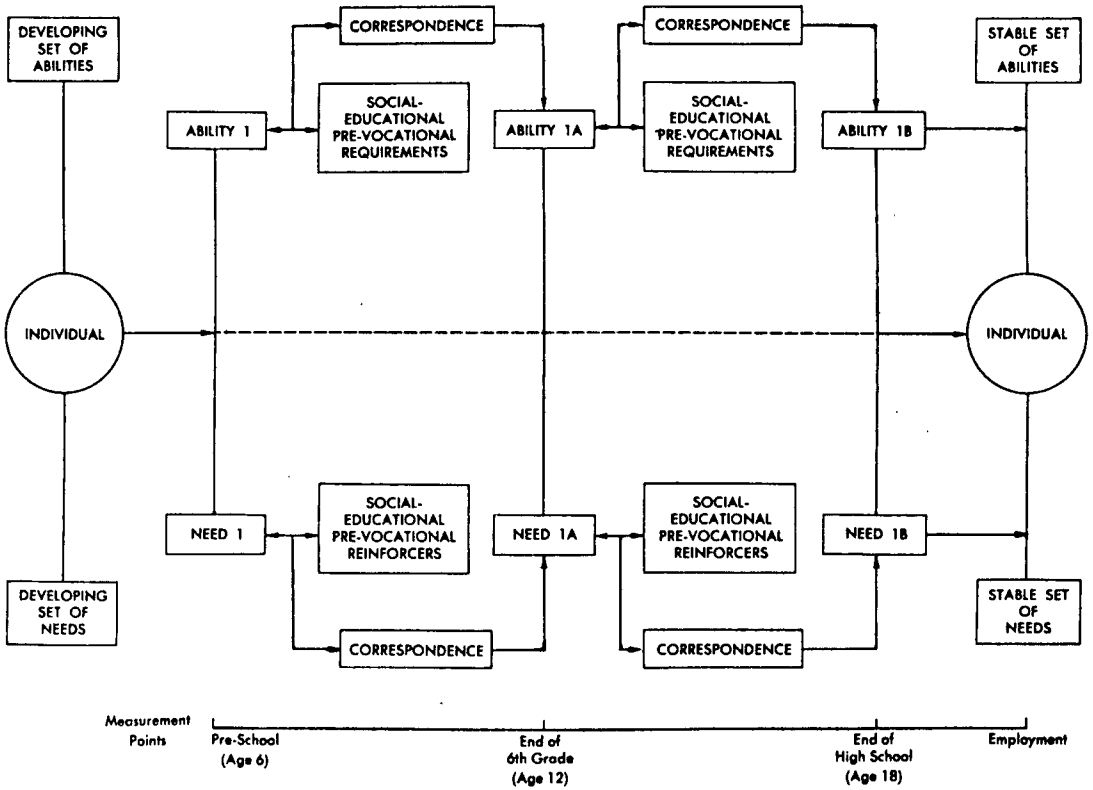
When this stage is reached successive measurements of ability and need strength will show no significant change and the individual can then be described as having a stable work personality. It is on this stable work personality that the Theory of Work Adjustment is based (see figure 2.3).

In 1976 an article by Dawis and Lofquist was published, in which the Theory of Work Adjustment was extended to include a description of the work adjustment process in terms of work personality style - and work environment style dimensions.

The work personality style dimensions deduced from the theory are flexibility, activeness, reactiveness and celerity. These dimensions allow a description of the interaction between the structure of the work personality and that of the work environment. A brief description of each dimension follows.

Flexibility of the work personality refers to the amount of non-correspondence with the work environment the individual will tolerate. Individuals are expected to differ in this regard, i.e. work personality structures may differ in the

Figure 2.3: INDIVIDUATION OF THE WORK PERSONALITY



Adapted from Lofquist and Dawis, 1969: p.52

amount of correspondence they will require of the work environment structure to remain in it. For example, the more flexible individual will tolerate some presence of and interaction with other workers, whereas the less flexible person will do something about the situation in order to achieve privacy.

Activeness refers to an individual's acting on the work environment in order to increase correspondence, whereas reactiveness refers to an individual's response to the work environment, in order to increase correspondence. The latter is achieved by the changing of the expression or manifestation of the work personality structure.

Celerity refers to the difference in the speed with which the individual moves in order to increase correspondence. In this regard, individuals who typically move fast may be described as celerious. Celerity can thus be observed in terms of how quickly or slowly an individual responds (actively or reactively) to a non-correspondent situation.

Dawis and Lofquist conclude that the inclusion of these dimensions in the Theory of Work Adjustment will make it possible to view work adjustment as a continuing and dynamic process.

2.5 THE WORK ENVIRONMENT

Traditionally the work environment has been described, from the employer's point of view, as the setting in which work behaviour takes place. This description, usually consisting of components such as: the work to be performed, the job title, tools and materials to be used and compensation rate, is based on an economic view of work. In this view the individual worker is regarded as simply one of the commodities in production (Lofquist and Dawis, 1969).

Typical approaches to the classification of work environments, where the job is the basic concept, clearly illustrate the above mentioned. Excellent examples are the 1939 and 1949 editions of the U.S. Department of Labour's Dictionary of Occupational Titles (DOT).

Lofquist and Dawis further state that there are a number of ways of describing the work environment, each reflecting society's way of evaluating occupations. There is, however, one psychological approach to describing the work environment, which entails its description in terms of worker traits.

Such a description is based on three premises, namely:

- workers select work environments congenial to their work personalities
- work environments "select" workers with adequate work personalities
- it is possible to distinguish among work personalities typically found in different work environments.

This coincides with Pervin's (1968) view that for each individual there are environments which more or less match the characteristics of his personality. Expanding on this view, Pervin further states that individuals who are congruent with their environment, may be higher performers and express more job satisfaction, than those individuals who experience a lack of fit.

Further mentioned by Pervin (1968) are a number of psychologists who have called attention to the importance of the environment in influencing behaviour. One example is Sherif and Cantril (in Pervin, 1968), who emphasized the importance of the social environment and criticized psychoanalysis for missing the continuous relationship between the individual and his social environment.

Another example is that of Chein (in Pervin, 1968) who in a similar way as Sherif and Cantril, emphasized the environment as a limiting and determining factor in the way an individual satisfies his motives.

Holland (1973), proposing a theory of vocational choice/personality, thereby postulating six primary personality types (realistic, investigative, artistic, social, enterprising and conventional) and analogous environmental models, defines an

environment as "the atmosphere created by the people who dominate a given environment". Each model environment tends to reinforce its own characteristic achievement and a person's relationship to his environment can be assessed according to the degree of congruence or compatibility.

Murray (in Pervin, 1968) more or less shares the latter view, when he states that the individual interacts with various environments according to the degree in which they satisfy or frustrate his needs. An environment may have a positive or negative cathexis for the individual or the individual may have a positive or negative sentiment toward the environment.

Having made a study of emphases in job satisfaction research done during 1968-1969, Pallone, Hurley and Rickard (1971) came to the conclusion that among those research studies which reflect newer or emerging emphases in job satisfaction research the studies likely to hold the greatest speculative or practical interest for vocational counsellors and researchers, are those which report on occupational reinforcer patterns (ORPs) or on other aspects of the Theory of Work Adjustment.

Reinforcers (need-satisfying conditions) in the work environment were referred to under the previous heading, but in order to understand the meaning and use of occupational reinforcer patterns, as they relate to individual-environment interaction, they will be described in fuller detail.

It is an assumption of the Theory of Work Adjustment that correspondence between the individual and his work environment can be described in terms of the individual fulfilling the requirements of the individual. A further assumption of the theory is that ability requirements and reinforcer systems are the significant aspects of the work environment (Lofquist and Dawis, 1969).

With regard to the ability requirements of the work environment, Desmond and Weiss (1973) are of the opinion that relatively little has been done in determining the ability requirements of jobs (work environments) and in differentiating

jobs on the basis of patterns of abilities which they require. However, research has been done in the field of ability measurement and the description of persons in terms of the patterns of their abilities - a view shared by Downey et al. (1975) and Warren (1970).

Patterns of job requirements are known as Occupational Aptitude or Ability Patterns (OAPs). The basis for the development of OAPs, by the United States Employment Service (USES), for use with the General Aptitude Test Battery (GATB), was laid by the job psychograph method of Viteles (in Weiss, Dawis, England and Lofquist, 1965).

In using OAPs, the vocational counsellor or any other trained user compares the individual's scores on three selected GATB tests (the OAP variables), with OAP cutting scores for each test. Agreement between the pattern of individual scores and the OAP leads to a prediction of satisfactoriness in work performance on jobs for which the OAP applies. The OAP is thus a description of the ability requirements of the job in psychometric terms.

With regard to reinforcer systems, Weiss et al. (1965) note that few attempts have been made to describe the work environment with respect to a set of reinforcement dimensions, by which workers may also be described. However research within the context of the Theory of Work Adjustment led to the identification of several reinforcers, the various reinforcers within a specific work environment forming a reinforcer system. A graphic profile of the reinforcer system is known as an Occupational Reinforcer Pattern (ORP) (refer to graphic profile in Appendix C).

Quite a large body of ORP data is currently available (for 148 occupations) regarding hypothesized reinforcers in occupations. This enables counsellors to help individuals identify those occupations in which they are likely to be (have high probability) most satisfied (Tinsley and Weiss, 1974).

A detailed description of ORPs and its vocational use may be found in Appendix C, under the description of the Minnesota Job Description Questionnaire.

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CHAPTER 3

A THEORY OF WORK ADJUSTMENT

In this chapter a detailed description of work adjustment research and the Theory of Work Adjustment will be given, thereby linking it to the previous chapter — utilization of individual and environmental variables. Resulting from the formal theory the hypotheses for this study will be stated.

3.1 BACKGROUND TO WORK ADJUSTMENT RESEARCH

The Theory of Work Adjustment, as formulated by Dawis, England and Lofquist (1964) and Dawis, Lofquist and Weiss (1968), resulted from several years of study and research activity in the field of work adjustment outcomes, undertaken by the Work Adjustment Project (WAP) in the Industrial Relations Center at the University of Minnesota, Minneapolis, Minnesota, U.S.A. (Weiss in Zytowski, 1973).

The WAP derives from Viteles's early research (1932 - already referred to) in vocational psychology and from the later work of Paterson and his colleagues at the Minnesota Employment Stabilization Research Institute in the early 1930s (refer to Appendix A).

In the recent past WAP research has been mainly influenced by the work of British psychologists, Alec Roger and Alistair Heron (Weiss in Zytowski, 1973), on job satisfaction and satisfactoriness (concepts to be explained - also refer to glossary), as well as by recent American research and theory relating to job satisfaction.

Research studies and findings are published in the form of monographs, known as the Minnesota Studies in Vocational Rehabilitation (Gay, Weiss, Hendel, Dawis and Lofquist, 1971). These studies, which began in 1957, are an ongoing research program and are to a large extent supported by the Office of Vocational Rehabilitation and its successors, the Vocational

Rehabilitation Administration and the Rehabilitation Services Administration of the United States Department of Health, Education and Welfare (Dawis, in Cull and Hardy, 1973; Weiss in Zytowski, 1973).

The main purpose of the WAP is to develop a psychology of work for the disabled individual, but its research also has implications for the vocational problems of persons who are not disabled (Weiss, in Zytowski, 1973). Bearing this in mind, it has two main objectives (Borgen, Weiss, Tinsley, Dawis and Lofquist, 1968), namely:

- the development of diagnostic tools for the prediction of work adjustment, and
- the exploration of the process of adjustment to work and thus the evaluation of work adjustment outcomes.

These primary goals are embodied in a conceptual framework for research, entitled the Theory of Work Adjustment.

3.2 WHY THE NEED FOR WORK ADJUSTMENT RESEARCH?

The vast research literature on work strongly suggests this need (Scott, Dawis, England and Lofquist, 1968).

For example, studies of job satisfaction have shown that there are many workers who are dissatisfied for different reasons. In the same regard studies of vocational choice have illustrated that there are workers who would prefer working at jobs other than the ones they have.

Other examples are attitude studies and studies of industrial conflict, which frequently point to various areas of low morale among workers. Counselling - and exit-interviews, similarly, have also uncovered a vast variety of adjustment difficulties concerning workers. In addition, studies of productivity and efficiency often reveal widespread differences in job performance, whereas job mobility studies show a diversity of work history patterns.

A logical conclusion from the foregoing seems to be that they all point to the lack of "fit" or "congruence" between the worker and the work environment. It is this lack of "fit" that probes research into this very important problem — and re=search area, with its far-reaching effects.

3.3 TOWARDS A DEFINITION OF WORK ADJUSTMENT:

Various views of adjustment, all having something in common, are offered by several authors.

Gilmer (1975) views adjustment as the process of trying to bring about a balance between needs, stimuli and the opportu=nities offered by the work environment. This implies attempts by the individual to satisfy needs by overcoming both inner and external obstacles and by fitting (adjusting) himself to circumstances.

According to Dawis (Cull and Hardy, 1973) work adjustment has a specific meaning in rehabilitation literature, where it is viewed as a "therapeutic process designed to enhance an indi=vidual's work potential or vocational potential by providing for amongst other things, the development of physical toleran=ces and capacitites, the aquisition of new information and new experiences and the changing of inappropriate behaviours".

However, speaking in more general terms, work adjustment has the meaning of covering or spanning the whole work life or work career of the individual. Thus work adjustment becomes a lifetime preoccupation (Dawis, in Cull and Hardy, 1973).

Scott et al. (1958) offer an excellent summary of conclusions derived from literature, thereby describing the concept of work adjustment:

- work adjustment is inferred from two primary sets of indi=cators, the one being "satisfaction" and the other "satis=factoriness"

- by "satisfaction" is meant overall job satisfaction and sa=

tisfaction with various aspects of the individual's work environment (which include aspects such as: his super= visor, his co-workers, working conditions, hours of work, pay, type of work, etcetera). It furthermore includes the satisfaction of his needs and the fulfillment of his aspirations and expectations

- by "satisfactoriness" is meant the productivity and effi= ciency of the worker/employee, as well as the way in which he is regarded by his supervisor, co-workers and the com= pany or institution for which he works.

Thus the adjustment of the individual to his employer, his supervisor, his co-workers, as well as to the demands of the job itself, his adjustment to his own aptitudes, interests and temperament are all encompassed in the concept of work adjust= ment.

Finally, within the context of the Theory of Work Adjustment the latter is viewed as "a continuous and dynamic process by which the individual seeks to achieve and maintain correspon= dence with his work environment" (Lofquist and Dawis, 1969) — similarly viewed by Gilmer (1975).

3.4 ASSUMPTIONS OF THE THEORY:

The Theory of Work Adjustment was first formulated in 1964 by Dawis, England and Lofquist, following several years of in-depth study by the WAP of the problems posed by work. This initial formulation of the theory was meant to serve as a basis for further research activities (Dawis, in Cull and and Hardy, 1973).

During the subsequent years, several outcomes of related stu= dies accumulated and led to a revision of the Theory of Work Adjustment in 1968 by Dawis, Lofquist and Weiss.

The following Theory of Work Adjustment is based on the con=

cept of correspondence between individual and environment (Dawis et al., 1968), where correspondence refers to relationship in which the individual and the environment are coresponsive, that is, mutually responsive.

The individual brings into this relationship his requirements of the environment, while the environment likewise has its requirements of the individual. If the individual is to survive in an environment, that is, if he wants to exist in an environment, he must achieve some degree of correspondence with his environment.

Ellen Betz (1968) also refers to this important aspect of correspondence between man and his environment, stating further that theorists differ in their terminoloy, referring to the concept in terms of "equilibrium, similarity, agreement, consonance or congruence".

However, although a terminology difference exists, there is widespread acceptance of the underlying principle that individual adjustment is optimized by the achievement of a "good fit" between the individual and his environment.

The first basic assumption of the Theory of Work Adjustment is that each individual seeks to achieve and maintain correspondence with his environment and that these are basic motives of human behaviour (Dawis et al., 1968; Lofquist and Dawis, 1969).

The individual comes into contact with several kinds of environments of which his home, work and school are but a few to mention. It is required of him to relate to these different environments in some or other fashion. Due to this fact, his achievement and maintenance of correspondence with one environment may have an influence on the correspondence achieved and maintained in others. This leads to the second assumption, which states that work represents a major environment to which most individuals must relate.

The third assumption underlying the theory is that correspon=

dence can be described in terms of the individual fullfilling the requirements of the work environment (satisfactoriness), and the work environment fullfilling the requirements of the individual (satisfaction). This assumption stems from the viewpoint that, when entering a work environment for the first time, an individual's behaviour is directed at the fullfill= ment of the requirements of the work environment, while at the same time experiencing the rewards of the work environment. If he finds it to be a correspondent relationship, he seeks to maintain it.

Should there be no correspondent relationship, he tries to establish it, but should he fail to accomplish this, he leaves the work environment. In many cases the initial relationship is frequently not correspondent which is due to several factors. In addition to this, both the individual and the work environ= ment undergo contact changes. This continuous and dynamic process by which the individual seeks to achieve and maintain correspondence with his work environment is referred to as work adjustment and forms the fourth assumption underlying the theory.

If the individual achieves minimal correspondence, it enables him to remain in a work environment, which, in turn, allows the individual to achieve more optimal correspondence and to stabi= lize the correspondent relationship. This stability of the correspondence between the individual and the work environment is referred to as tenure in the job.

As correspondence increases the probability of tenure (that is, remaining in the work environment) and projected length of te= nure increases. The opposite will result should there be a de= crease in correspondence. Tenure is therefore the most basic indicator of a correspondent relationship. It can thus be said that tenure is a function of the correspondence between the in= dividual and his work environment.

From the basic concepts of correspondence and tenure it is poss= ible to develop the concepts of satisfactoriness and satisfaction (already referred to).

For example, if the individual has substantial tenure, it can be inferred that he has been fullfilling the requirements of the work environment and vice versa. The same rationale could apply to his satisfaction. Thus, satisfactoriness and satisfaction indicate the correspondence between the individual and his work environment.

Fluctuations in satisfactoriness and satisfaction occur from time to time. There are, however, minimal requirements for both the individual and the work environment, that is, minimum level of satisfactoriness required of the individual and of satisfaction required by the individual. These minimum levels may be established by observing many individuals who have remained in a work environment. This approach led to the formulation of another assumption, namely: the level of satisfactoriness and satisfaction observed for a group of individuals with substantial tenure in a specific work environment establish the limits of satisfactoriness and satisfaction from which tenure can be predicted for other individuals.

It is also possible to see satisfactoriness and satisfaction as outcomes in the work adjustment process at various times during an individual's period of employment. As such, they are measures of work adjustment. When regarded from this viewpoint, satisfactoriness and satisfaction can be used to establish a methodology for the prediction of work adjustment from the evaluation of work personalities in relation to work environments. Therefore, the work personalities of individuals who fall within the limits of satisfactoriness and satisfaction for which substantiate tenure can be predicted, may be inferred to correspond to a specific work environment.

The different work personalities for which correspondence is inferred will establish the limits for specific work personality traits necessary for adequate adjustment to a specific work environment. These limits can be used as a basis for judging the degree of correspondence between other individuals and each specific work environment. Work personality — work environment correspondence can be used to predict satisfacto-

riness and satisfaction, indicators of corespondence in the work adjustment process.

Since it is feasible to use satisfactoriness and satisfaction together to predict tenure, work-personality - work environment correspondence can be used to predict tenure.

3.5 FORMAL STATEMENT OF THEORY

The following formal proposition about work adjustment, stated in operational terms, serve as a basis for research (Dawis et al., 1968; Lofquist and Dawis, 1969).

Proposition I:

An individual's work adjustment at any point in time is indicated by his concurrent levels of satisfactoriness and satisfaction.

Proposition II:

Satisfactoriness is a function of the correspondence between an individual's abilities and the ability requirements of the work environment, provided that the individual's needs correspond with the reinforcer system of the work environment.

Corollary IIa

Knowledge of an individual's abilities and of his satisfactoriness permits the determination of the effective ability requirements of the work environment.

Corrollary IIb

Knowledge of the ability requirements of the work environment and of an individual's satisfactoriness permits the inference of an individual's abilities.

Proposition III:

Satisfaction is a function of the correspondence between the reinforcer system of the work environment and the individual's needs, provided that the individual's abilities correspond with the ability requirements of the work environment.

Corollary IIIa:

Knowledge of an individual's needs and of his satisfaction permits the determination of the effected reinforcer system of the work environment for the individual.

Corollary IIIb:

Knowledge of the reinforcer system of the work environment and of an individual's satisfaction permits the inference of an individual's needs.

Proposition IV:

Satisfaction moderates the functional relationship between satisfactoriness and ability — requirement correspondence.

Proposition V:

Satisfactoriness moderates the functional relationship between satisfaction and need-reinforcer correspondence.

Proposition VI:

The probability of an individual being forced out of his work environment is inversely related to his satisfactoriness.

Proposition VII:

The probability of an individual voluntarily leaving the work environment is inversely related to his satisfaction.

Combining propositions VI and VII, we have:

Proposition VIII:

Tenure is a joint function of satisfactoriness and satisfaction.

Given propositions II, III and VIII, this corollary follows:

Corollary VIIIa:

Tenure is a function of ability-requirement and need-reinforcer correspondence.

Proposition IX:

Work personality — work environment correspondence increases as a function of tenure.

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CHAPTER 4

THEORETICAL BASIS UNDERLYING HYPOTHESES

The prediction of job satisfaction has become increasingly important due to various reasons. Amongst others, this interest stems from the modern philosophy of management where the latter is concerned with the achievement of organizational objectives through the voluntary cooperation of employees and greater efficiency on the job (Costello and Lee, 1974).

In order to accomplish this, management strives to create the work environment under which employees can best achieve their personal (work relevant) goals/needs and simultaneously contribute to the achievement of organizational goals and objectives (Muller, 1972). The work environment (not just physical) and individual needs have thus come to the fore as two variables which play important roles in job satisfaction.

By carefully analyzing the requirements and rewards of jobs, assessing the needs and abilities of the individual and finally relating the various variables, it is possible to place people in jobs that have a higher probability of increasing the individual's satisfaction, competence and tenure. This type of systematic matching would have at least one obvious result, namely a reduction in turnover rates (Seiler and Lacey, 1973).

Analyses of job satisfaction through need fullfillment is not new. To illustrate this, one need only refer to Maslow's study of a hierarchy of needs, which provided the basic foundation for many subsequent studies in job satisfaction (Costello and Lee, 1974).

During the third decade of the twentieth century a large number of social scientists shifted their attention to the understanding of human factors operating in the work environment. What was of special importance, were those factors which related to worker adjustment and job satisfaction (Schaffer, 1953).

In the same study Schaffer (in Costello and Lee, 1974) revealed that job satisfaction is primarily based upon need fullfill= ment. Also mentioned was the fact that the stronger the need, the more closely will job satisfaction depend on its fulfill= ment. This implies that the perceived importance of a need has a significant effect on overall job satisfaction.

Some of the most comprehensive work concerning job satisfaction was done by Smith, Kendall and Hulin (1969 in Seybolt, 1975). They developed the Job Description Index (JDI) and identified the following five facets of job satisfaction: pay, co-workers, promotion, supervision and the work itself.

The need fullfillment model postulates that job satisfaction is a function of the degree to which needs are satisfied (or full= filled) by the work environment (Pinto and Davis, 1974), where needs are conceptually defined as an individual's prefe= rences for particular conditions and outcomes of work. This viewpoint links with the Theory of Work Adjustment in that individual needs and abilities, together with the ability re= quirements and need satisfying conditions (or reinforcers) of the work environment moderate in the prediction of job satisfac= tion.

With regard to the above-mentioned, special reference must be made to the third proposition of the Theory of Work Adjustment, which states that: "Satisfaction is a function of the corre= spondence between the reinforcer system of the work environment and the individual's needs, provided that the individual's abi= lities correspond with the ability requirements of the work en= vironment".

Referring to this correspondence, Warren (1970) mentions that few investigators have attempted to measure the correspon= dence by means of direct measures of both the individual and the work environment. Furthermore there have been few studies to date which tested this proposed functional relationship be= tween job satisfaction and need-reinforcer correspondence.

Apart from Warren herself, who tested this functional relationship with substantial positive results, Betz (1968) used various correspondence measures and consistently found positive relationships between the various measures and job satisfaction. However, Betz's results were inconclusive about determining the best correspondence measure. Researchers at the WAP at the University of Minnesota are extremely interested in the prediction of job satisfaction from this need-reinforcer correspondence, but to date have had a hit and miss success rate.

This study has as its aim the testing of the third proposition of the Theory of Work Adjustment in an attempt to contribute to the construct validity of the theory and to accentuate the importance of this functional relationship and the far reaching effects it has for management in general and vocational guidance in particular.

In addition to this main hypothesis, other secondary hypotheses are also investigated. One of these is to see whether there is ground for the hypothesis which states that there are differences in the ORP ratings of different groups of raters.

Borgen et al. (1968) proposed four major methods of measuring job reinforcers, namely:

- supervisors' responses to the MJDQ
- trained experts' responses to the MJDQ
- MJDQ responses of workers on the job, and
- employee need and satisfaction data to infer job reinforcer level.

The trained expert method appears to be expensive in terms of time and cost. Despite its demonstrated validity (Weiss et al. 1965) the inferential approach is similarly expensive. Having excluded these two methods, the remaining methods constitute the use of workers and supervisors on the job. However, the following question now arises: do these two methods provide similar equally accurate measures of job reinforcers? The reason why this clarity is essential comes to the fore when deciding which method to employ in vocational guidance, research and so forth, as the most objective rating is the requirement.

Warren (1970) mentions that differences in ORP ratings are bound to exist due to the different roles and orientation of employee and supervisor groups toward a specific occupation. She emphasizes this when referring to the employees' (or workers') more active participation in the work environment. This implies a greater familiarity with the work environment and the inference can be made that they should be better raters.

However, differences in opinion exist with regard to the above mentioned statement. It can be argued that worker involvement is a disqualification for rating purposes, since moderate high correlations have been found between workers job reinforcer ratings and their reported job satisfaction. This was reported in unpublished research undertaken by the Work Adjustment Project at the University of Minnesota.

Supervisors, on the other hand, are for all practical purposes external observers who cannot gauge the individual worker's subjective perceptions of the work environment. Apart from this, the MJDQ item content poses problems to the supervisors, for several items represent job dimensions which reflect job aspects closely linked to a supervisor's position and responsibilities. The argument is that supervisors might find such items difficult to evaluate objectively. Examples are items such as:

"Workers on this job have bosses who train their men well" (Supervision-technical) and
"workers on this job have a company which administers its policies fairly" (Company policies and practices).

It is therefore, not surprising that Borgen et al., (1968) found that these two job dimensions were among nine other MJDQ dimensions always rated as "descriptive" in 81 jobs studied.

Another problem that the supervisor faces with regard to item content, are those items which refer to non-observable behaviour or feelings. An example of such an item is:

"Workers on this job do work without feeling that it is morally wrong" (Moral values).

Both Betz (1968) and Warren (1970) investigated this problem and came to different conclusions. However, certain similarities can be noted. Using raw scores, Betz (1968) found significant differences in the ratings of employees and supervisors. Warren (1970) criticized Betz for her using of raw scores instead of adjusted scale values. Warren used these adjusted scale values and found significant differences on four of the 20 MJDQ scales for a specific occupation, but a correlation of 0,95 between supervisor and employee ORPs for the same job. Yet in another instance Warren (1970) found significant differences on 11 of the 20 MJDQ scales and a correlation of 0,88 when the adjusted scale values were correlated.

From the foregoing it is evident that empirical investigations have not yet yielded conclusive results. It is for this reason that a second research problem was included in this study which postulates that there are no significant differences in the ORP ratings of employees and supervisors. Subsequently, it was hypothesized that there will be no significant differences in the ratings of various rater groups within the same work environment.

Should differences in ORP ratings exist between ORPs of employees and supervisors, it would be of interest to see whether job satisfaction is differentially predictable from need-supervisor ORP correspondence and need-employee ORP correspondence.

The following hypotheses summarize the focus of the present research project:

4.1 FOR A GIVEN JOB THERE ARE NO DIFFERENCES IN THE ORP RATINGS OF EMPLOYEES AND SUPERVISORS

4.2 FOR A GIVEN JOB THERE ARE NO DIFFERENCES IN THE ORP RATINGS OF VARIOUS EMPLOYEE- AND SUPERVISOR RATER GROUPS WITHIN THE SAME WORK ENVIRONMENT

4.3 FOR A GIVEN JOB/OCCUPATION JOB SATISFACTION CAN BE PREDICTED FROM NEED-REINFORCER CORRESPONDENCE

4.4 GIVEN DIFFERENCES IN ORP RATINGS OF EMPLOYEES AND SUPERVISOR

RATER GROUPS IT IS POSSIBLE TO DIFFERENTIALLY PREDICT JOB SA= TISFACTION FROM NEED-SUPERVISOR ORP CORRESPONDENCE AND NEED-EMPLOYEE ORP CORRESPONDENCE.

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CHAPTER 5

RESEARCH METHODOLOGY

An empirical approach was followed in this research project. This type of approach generally entails some type of measurement, followed by statistical analyses. The latter are determined by the nature of the data and the hypotheses stated. This is done as a means of ensuring more precise predictions of future events.

In the current research project the aim was to obtain various measurements regarding the job satisfaction and vocational needs of subjects, as well as information regarding the reinforcer pattern of a specific work environment. This data was then linked and estimations regarding the prediction of job satisfaction were made. This was all done within the context of the Theory of Work Adjustment.

5.1 THE SAMPLE

The sample employed consisted of the academic staff (lecturers) of the Education and Engineering faculties at the University of Stellenbosch, South Africa.

The subjects were chosen because of the following reasons:

a) their homogeneity with regard to:

- their composition (all having university degrees)
- subjects taught (related to specific faculties)
- students encountered

b) the biggest available sample.

The two main groups (Education and Engineering) were subdivided, each forming three different subgroups, namely:

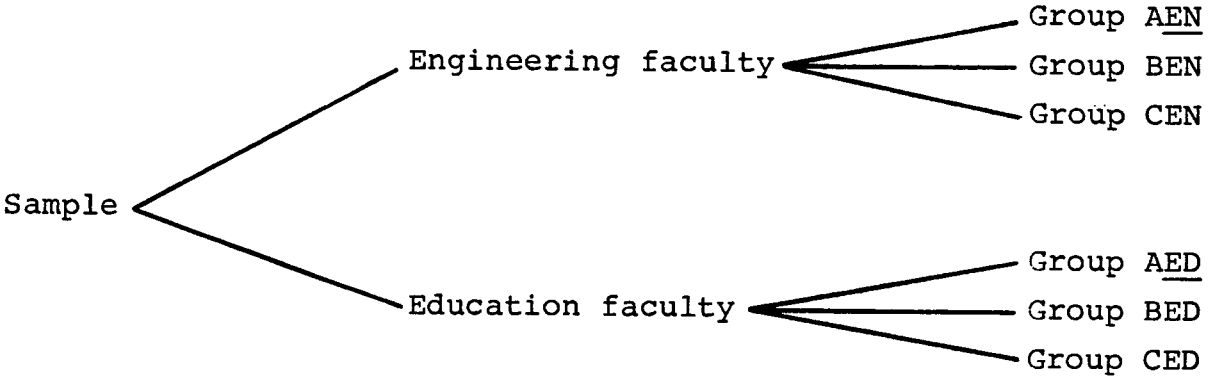
Group A: all professors (who were, for the purpose of the study, regarded as Supervisors of employees in the job of: Teacher: Adult Education.

Group B and C: random selection of the rest of the academic staff (employees).

The six subgroups are distinguished in the following manner:

Group AEN refers to Group A of the Engineering faculty, whilst BEN and CEN refer to groups B and C of the same faculty.

In a similar fashion, AED, BED and CED refer to groups A, B and C of the Education faculty as depicted by the following diagrammatical representation:



The nature of the work performed within each faculty (or six subgroups) includes the following:

- the instruction of out-of-school youths and adults in academic courses;
- the preparation of the outline and content of instructional programmes and studies;
- the assemblance of material to be presented;
- the presentation of lectures and discussions to increase student knowledge;
- the testing of gained knowledge and/or skills by means of tests or examinations, and
- ongoing research in specific fields.

The sample characteristics of the sample as a whole, as present=

ed in Table 5.1, display some interesting information.

For example, the age range is from 18+ to 65, averaging 41,14 years of age. The mean educational level is 18,58 years. This figure includes the normal twelve years at school, plus a va= rying amount of tertiary-level education.

The majority of the sample was male with only 15,5 percent being female. The number of years in the occupation (tenure) varies from less than two years for almost 19 percent of the sample, while 2,4 percent had 31 or more years of service in the concern= ed occupation. The mean number of years in the occupation is 6,89.

The size of the preliminary samples was 125, of which 68,00 percent responded. Table 5.2 gives an overview of the size of each subgroup.

One case was at a later stage omitted from group CEN due to in= consistent response to the Minnesota Importance Questionnaire (MIQ).

TABLE 5.2

RESPONSE RATE OF SAMPLE TOTAL

Group	Size	Number of Respondents	Percentage
AEN	13	10	76,92
BEN	26	20	76,92
CEN	27	15	55,56
AED	8	7	87,50
BED	26	16	61,54
CED	25	17	68,00
TOTAL	125	85	68,00

TABLE 5.1

COMBINED DEMOGRAPHICS FOR SAMPLE AS A WHOLE (N = 84)

	N	Percentage	Cumulative Percentage	Mean
AGE:				
18-25 years	1	1,2	1,2	
26-35	28	33,3	34,5	
36-45	32	38,1	72,6	41,14
46-55	12	14,3	86,9	
56-65	11	13,1	100,0	
EDUCATION:				
15 years	1	1,2	1,2	
16	3	3,6	4,8	
17	16	19,0	23,8	
18	11	13,1	36,9	18,58
19	32	38,1	75,0	
20	21	25,0	100,0	
SEX:				
Male	71	84,5	84,5	
Female	13	15,5	100,0	
TENURE:				
Less than 2 years	16	19,0	19,0	
2-5	35	41,7	60,7	
6-10	20	23,8	84,5	6,89
11-20	8	9,5	94,0	
21-30	3	3,6	97,6	
31 or more	2	2,4	100,0	

5.2 PROCEDURE

The following procedure was used in the execution of the experimental design:

Prior to the onset of the experimental procedure, the researcher contacted the dean of each faculty (Engineering and Education), informing them of the intended research project. A summary of the intended project was then laid before each dean, who on their turn put it to the various faculty committees. This was done in order to obtain the concent and cooperation of everyone concerned, prior to the launching of the project. The committee members, who constituted representatives from the various departments within each faculty, were also requested to urge their staff's cooperation in the completion of the questionnaires.

Having done the foregoing, a letter (A) explaining the nature of the project and requesting their voluntary cooperation, was sent to each subject. This was done by means of the regular campus mailing system.

After a time lapse of one week, a second letter (B), accompanied by the questionnaire(s) and additional clarifying information on the completion thereof, was sent to each subject. Also enclosed in this letter (B) was a pre-addressed envelope, by means of which the subjects were able to return the completed questionnaire(s) via campus mail. These were sent directly to the department of Psychology.

If no reply was received within two weeks after the mailing of letter B, a follow-up letter (C) was mailed to the concerned subjects. This letter reminded them of the questionnaires and the completion thereof, also urging their voluntary cooperation.

If there was no reply to the follow-up letter (C) within a week after it had been mailed, a second follow-up letter, similar to the first one (C), was mailed to the concerned sub-

jects. In this letter (D) the subjects were again urged to complete the questionnaire(s), but should they not see their way clear to the completion thereof, they were requested to return the incompleted questionnaire(s) to the researcher. In many instances this had the wanted effect.

Correspondence was terminated as soon as a subject indicated that he/she did not wish to partake.

Upon receival of the completed questionnaire(s), a letter (E), acknowledging receipt thereof and thanking the subjects for their cooperation in the research project, was mailed. This terminated the data collecting procedure.

Copies of all the letters are contained in Appendix F.

5.3 MEASUREMENT DEVICES

The following questionnaires were used:

- The Minnesota Importance Questionnaire (MIQ) as a measure of vocational needs;
- the Minnesota Satisfaction Questionnaire (MSQ) as a measure of job satisfaction, and
- the Minnesota Job Description Questionnaire (MJDQ) as a measure of reinforcers in the work environment.

A description of each one of these questionnaires is contained in the appendix, but for the purpose of the meaningful interpretation of the results, detail regarding the statistical analyses of each is provided.

5.3.1 The measurement of vocational needs

The Minnesota Importance Questionnaire (MIQ) is a method of assessing vocational needs by asking individuals to indicate the importance of various work reinforcers (or need-satisfiers) (Lofquist and Dawis, 1975).

In other words, the individual completing the MIQ is asked to

"draw a verbal picture" of his ideal job (Weiss in Zytowski, 1968). By means of pair comparison scaling this "verbal pic= ture" is then translated into a psychometric picture.

The 1967 version of the MIQ measures 20 vocationally-relevant need dimensions, each of which is represented by one statement. Comparative- and absolute judgment scaling techniques are used to obtain scale values for each MIQ-scale (Warren, 1970).

The method of pair comparisons, used in the first (comparative judgment) section of the questionnaire, provides information regarding the relative levels of importance of the individual's 20 vocational needs.

Each of the 20 statements is paired with every other statement, yielding 190 item pairs. Order of presentation within a pair is randomized and the same statement is never included in two consecutive pairs. Respondents are asked to choose the member of each pair which is more important to them on their ideal job.

The second part of the MIQ presents the 20 statements separate= ly and asks respondents to indicate whether each statement is "important" or "not important" in their ideal job. Information from this absolute judgment (second) part is used to determine the individual's "zero-point", that is the number of statements which the individual rated as "not important".

The 1967 edition of the MIQ provides three types of "scores", namely:

- raw scale scores
- unadjusted scale scores/values
- adjusted scale values

In addition, a total circular triads (TCT) score and error bands are computed, the latter being around the individual adjusted scale values.

5.3.1.1 Raw scale scores

In scoring the MIQ, 21 raw scores are obtained of which 20 re=

present scores for vocational need scales. The twenty-first one is called the "zero-point" scale and is used to "anchor" the other 20 vocational need scales (Gay, Weiss, Hendel, Dawis and Lofquist, 1971).

The raw score for each statement (i.e. vocational need scale) is the number of times the statement representing a particular scale is chosen as "more important" to the individual in his "ideal" job.

Scoring is as follows: for the pair comparison section (items 1-190) the chosen statement is scored "1" and the statement not chosen, is scored "0". When it comes to the absolute judgment section (items 191-210), those statements indicated as "important" by a "yes" response are scored "1", while those indicated as "not important" by a "no" response are scored "0". The raw score for the 21st scale (or zero-point scale) is obtained by counting the number of "no" responses to the 20 absolute judgment items (items 191-210)(Gay et al., 1971).

The range of raw scores is from 0 to 20 for both the vocational need scales and the zero-point scale. To illustrate: a raw score of 20 will indicate that the individual completing the questionnaire chose that particular statement over all the other 19 statements and also answered "yes" regarding the statement's importance in the absolute judgment section (Weiss in Zytowski, 1968).

5.3.1.2 Unadjusted scale values

Unadjusted scale values are obtained by converting the raw scale score to a z-score based on the normal distribution (Weiss in Zytowski, 1968).

The first step is to express each raw score as a proportion of the total number of stimuli scored (that is 21, including the zero-point scale). This proportion is then converted to the appropriate z-value.

When this proportion is calculated 0,50 is added to the raw score. This is done in order to include the expected number of times the statement would be chosen over itself, had such a comparison been made. This follows the rationale given by Guilford (1954 in Gay et al., 1971) in his book "Psychometric Methods".

The use of the pair comparison scaling technique gives an indication of how far any given scale value deviates from the individual's own mean scale value. The latter is arbitrarily defined as 0,0. Furthermore, it is important to note that the z-score scale values are ipsative (or intra-individual) scores. This means that the individual is the base of comparison and not some normative group (Weiss in Zytowski, 1968).

The foregoing procedure will always yield a set of scale values which are equally distributed around zero. Half of the unadjusted scale values will be positive and the other half will be negative. These unadjusted scale values have limited use, because it only reflects the relative levels of the measured vocational needs and do not allow fully for comparisons to be made among individuals. In order to obtain a more meaningful picture and comparison among individuals, these unadjusted scale values have to be adjusted (Gay et al., 1971; Weiss in Zytowski, 1968).

5.3.1.3 Adjusted scale values

Once the unadjusted scale value for the zero-point has been determined (in a similar fashion as the unadjusted scale values for the 20 vocational need scales), the other 20 scales can be adjusted to the zero-point by subtracting the zero-point scale value from the scale values of each of the 20 vocational need scales, and from itself. By doing this, a set of 21 adjusted scale values will be yielded (Weiss in Zytowski, 1968).

Adjusted scale values with positive signs indicate vocational needs which are "important" to the individual, whereas the

magnitude of the adjusted scale values is an indication of exactly "how important" a specific vocational need is. Adjusted scale values with negative signs signify vocational needs which are not important to the individual in question (Weiss in Zytowski, 1968).

The potential range for adjusted scale values is between -4,0 and +4,0. However, the maximum range for an individual is only half of this, the latter depending on the value of the zero-point scale before adjustment (Gay et al., 1971).

5.3.1.4 Total circular triad (TCT) scores

These scores are also derived from pair comparison scaling and can be used as a "validity" scale.

When administering and scoring the MIQ, it is important to identify those individuals who do not or cannot fully cooperate in completing the questionnaire. Weiss (in Zytowski, 1968) points out that the person who uses the questionnaire should be on the look-out for

- individuals who do not understand the questionnaire (may be because the items are too difficult)
- those who are not able to choose between alternatives (may be for the reason that they have not had enough exposure to occupations to make meaningful choices)
- respondents who are careless in marking the answer sheet, and
- people who are not motivated to complete the questionnaire meaningfully.

The TCT-score, which is used to identify these people, indicates the logical consistency with which an individual has responded to the MIQ and represents the total number of circular triads (Gay et al., 1971).

5.3.1.4.1 Circular triads

A circular triad is formed when an individual responds to three items in the following manner (Gay et al., 1971):

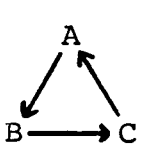
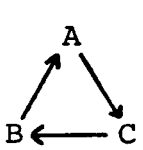
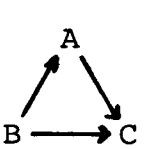
Item 1: He chooses statement A over statement B
Item 2: He chooses statement B over statement C
Item 3: He chooses statement C over statement A

It is perfectly clear that this sequence of choices is illogical, intransitive or inconsistent. To be perfectly logically consistent, the individual has to choose one statement over all the others, a second over all the others except the first, a third over all but the first and the second and so forth. This pattern of choices must continue down to the twentieth statement, which he has to choose over none of the other statements.

If an arrow is used to indicate a judgment of "higher than" or "preference over", figure 5.1 illustrates "circular" and noncircular" triads (Borgen, Weiss, Tinsley, Dawis and Lofquist, 1968):

FIGURE 5.1

ILLUSTRATION OF JUDGMENTS IN CIRCULAR AND NONCIRCULAR TRIADS

CIRCULAR TRIADS (inconsistent response choices)		NONCIRCULAR TRIADS (consistent response choices)
		

The extreme would be the individual who is totally logically inconsistent in his response. This person will choose each statement half the time and its alternative half the time. By doing this, he will obtain the maximum TCT-score, which is

385 for the MIQ (Gay et al., 1971).

The formula used to calculate the total number of circular triads for an individual on the MIQ, is the following (Kendall, 1955 in Gay et al., 1971):

$$TCT = 2870 - \sum_{i=1}^{21} X_i^2/2$$

where $\sum_{i=1}^{21} X^2$ equals the sum of the squared raw scores for the vocational need scales. This includes the zero-point scale.

The TCT-score has a random response mean of 333 and a standard deviation of 15,8. A cutoff score of 254 is regarded as the maximum allowable for a valid computer reporting profile. A TCT-score of 255 and higher will therefore not yield a MIQ computer report (Gay et al., 1971).

It is essential that these scores (255 and higher) should not be used in research studies as it will contaminate the results.

5.3.1.5 Error bands

The presence of circular triads is an indication of some indecision on the part of the individual. In an attempt to locate these areas of indecision, error bands are computed for each vocational need scale. This is done by means of an analysis of the TCT-score. These error bands provide the limits to which adjusted scale values could change, should the individual respond in a perfectly logically manner (Gay et al., 1971).

The computation of error bands involves the following:

- for every item it is determined whether the individual's item choice appeared in a circular triad, or not, whereafter
- each item choice involved in a circular triad is compared with the ranking of the individual's scale scores for the two statements in an item (underlying this approach is the assumption that an individual's scale scores are more reli-

able than each of the 210 item choices).

The statement chosen per item should naturally have the higher ranked scale score. What now follows, is a count of every instance where the item choice is inconsistent with the scale ranking. By doing this, the instances when the choice increases the scale score are separated from those which decrease the scale value. Depending on the specific case, these counts are then added or subtracted from the raw scores and converted to scale values. This procedure yields a range of scale values around the observed scale values which represents the individual's indecision for a specific scale (Gay et al., 1971).

In summary, the steps in scoring the MIQ involve the computation of raw scores, unadjusted scale values, adjusted scale values, TCT-scores and error bands. For detail regarding the validity and reliability and a description of the MIQ, please refer to Appendix E.

5.3.2 The measurement of job satisfaction

The Minnesota Satisfaction Questionnaire (MSQ) consists of 100 statements, arranged in five blocks of 20 statements, each of the 20 reinforcers being represented in each block of statements (Lofquist and Dawis, 1975).

The questionnaire requires respondents to consider each statement and to indicate how satisfied they feel about that specific aspect of their work. The latter are the same dimensions as measured by the vocational need scales in the MIQ.

The MSQ is scored for all 20 reinforcer scales, but also yields a total score based on all 100 items as an indication of general job satisfaction.

Response choices for each MSQ scale item are weighted in the following manner (Weiss, Dawis, England and Lofquist, 1967):

Response choice	Scoring weight
Not satisfied (NS)	1
Only slightly satisfied (SS)	2
Satisfied (S)	3
Very satisfied (VS)	4
Extremely satisfied (ES)	5

Responses are thus scored 1 through 5 proceeding from left to right in the answer spaces.

To compute scale scores, weights for the responses chosen are added, yielding a total raw score for each of the 20 scales. These raw scores are then converted to percentile scores, using appropriate normative data as supplied in the manual (Weiss, Dawis, England and Lofquist, 1967).

An individual's percentile score on any scale gives his relative position in a norm group, indicating the percentage of people in the norm group with scores equal to or lower than the individual's raw score. However, using different norm groups, it is possible to convert the same raw score on a scale to different percentile scores. For this reason it is extremely important to select the right or most suitable norm group.

The appropriate norm group for any individual is that one which corresponds exactly to his/her job. Since the number of norm groups is limited at present it may be necessary to select a norm group that is very close to the individual's job. Weiss et al. (1967) caution that care must be taken in this selection because misinterpretation of scores may be the result if the determination of similarity is done on a superficial basis.

Should it happen that an individual is in an occupation for which no appropriate norm group has been developed, there are various ways of interpreting the MSQ-scores, namely:

- the raw scores can be converted to percentile scores using the Employed Disabled or Employed Nondisabled norms (in the manual), depending on the individual's status with regard to disability, or

- the mean scale responses may be interpreted in terms of the item anchors. For example, since responses to individual items are scored with regard to the response choices and scoring weights already mentioned, a group mean on any of the 5-item scales of say, 20, indicates that the average response to items on the scale was 4, or satisfied. Similarly, a mean scale score of 10 would indicate an average item response to items on the scale of 2, or dissastisfied. Using this approach, areas of greater or lesser satisfaction for a group, as well as the approximate levels can be identified.

A percentile score of:

- 75 or higher represents a high degree of satisfaction
- 25 or lower represents a low degree of satisfaction
- between 26 and 74 indicates an average degree of satisfaction (Weiss et al., 1967).

For detail regarding validity, reliability and a description of the questionnaire, please refer to Appendix D.

5.3.3 The measurement of occupational reinforcers

The Minnesota Job Description Questionnaire (MJDQ) measures an individual's perception of the reinforcer characteristics of an occupation (work environment) on the same dimensions measured by the MIQ and the MSQ.

Twenty scores are generated per occupation (one for each reinforcer) which indicate the relative strength of a reinforcer in a particular environment. A twenty-first score measuring Autonomy is also included in the MJDQ, but not in the MIQ or the MSQ (Lofquist and Dawis, 1975).

The MJDQ contains 21 ranking blocks, each containing five statements. Each of the 21 statements appears in five ranking blocks, but each time with a different set of four other items (Borgen, Weiss, Tinsley, Dawis and Lofquist, 1968).

Respondents are asked to consider each group of five statements

individually and to rank the five in terms of how well they describe the job, using the numbers "1" to "5". The name of the occupation the subject is asked to rate (in the present study it was: Teacher: Adult Education) appears on the front page and on the demographic data page (back cover).

The MJDQ uses the method of multiple rank orders (a variation of the method of pair comparisons) to obtain a ranking of the relative strength of the 21 hypothesized occupational reinforcers (Tinsley and Weiss, 1974). The composite profile derived from this ranking is called an Occupational Reinforcer Pattern (ORP) (Seiler and Lacey, 1973).

Also included in the scoring of the MJDQ is the computation of a "zero-point" scale, which allows the conversion of the comparative judgments to an "absolute" scale (refer to the latter part of the questionnaire). This absolute judgment data is used in conjunction with the information from the "comparative rankings" (the former part of the questionnaire) to determine the adjusted scale values of each of the 21 reinforcers. This is done in a similar way as in the case of the MIQ.

In scoring the MJDQ five types of information are presented for an occupation (Rosen, Hendel, Weiss, Dawis and Lofquist, 1972), namely:

- a graphic profile of the occupational reinforcers as described by the raters (the latter of whom can be supervisors on the job, employees, job analysts, personnel managers, "outside experts"/consultants or vocational counsellors);

- a list of reinforcers which are highly descriptive or moderately descriptive of the particular occupation;

- a list of other occupations which have similar ORP profiles

- summary statistics describing scale values and other information regarding the occupation, and

- the D.O.T. code and associated Occupational Aptitude Pattern (OAP) for the occupation. The D.O.T. code for the occupation under hand (Teacher: Adult Education) is 099.227.030. There is no OAP for this occupation.

A brief discussion of each type of information will now follow:

5.3.3.1 ORP Profiles

At a glance, a graphic profile shows the reinforcer pattern of an occupation. These profiles have several features which supply valuable information. Please refer to Appendix C for a detailed description.

5.3.3.2 Descriptive statements

The descriptive statements are classified as either highly descriptive or moderately descriptive. Furthermore, a reinforcer may either be present (if the scale value is high and positive) or not present (if the scale value is low positive or negative).

A set of rules select descriptive characteristics jointly on the basis of the level (being either positive or negative) of their corresponding scale values and on the level of agreement among raters in both the comparative and absolute judgment sections of the MJDQ (Borgen et al., 1968).

The following table presents the rules used for selecting ORP descriptive statements:

TABLE 5.3

RULES USED FOR SELECTING ORP DESCRIPTIVE STATEMENTS

	Adjusted scale value	Proportion agreeing present (P)	Overlap with neutral point (Q)
Highly descriptive characteristic, present	≥1,5	>,90	15%
Moderately descriptive characteristics, present	≥1,0	>,80	30%
Moderately descriptive characteristic, not present	≤ ,25	<,40	...
Highly descriptive characteristic, not present	≤ ,0	<,20	45%

(Adapted from: Borgen et al., 1968: p.31).

To illustrate: a descriptive phrase is moderately descriptive of an occupation if it meets the following criteria:

- the adjusted scale value of the particular scale is equal to or greater than 1,0

- on the absolute judgment section at least 80 percent of the raters agree that the statement describes the occupation, and

- the estimated overlap (Q) between the number of votes for the statement and the number of votes for the neutral point is less than or equal to 30 percent.

5.3.3.2.1 The neutral point

The neutral point, which is used in the scaling of the various statements, plays an important role in the interpretation of ORPs. The scaling of the neutral point follows the method used

by Gulliksen (1964 in Borgen et al., 1968).

In a similar fashion as in the case of the MIQ, responses to the absolute judgment section of the MJDQ are used to determine a psychological "neutral point". Reinforcers rated above the neutral point (that is a scale value higher than the neutral point) implies that those reinforcers are present in a particular occupation, whilst those rated below the neutral point can be considered not present in the occupation (Borgen et al., 1968).

This neutral (or Zero-) point score equals the average number of "does not describe" responses given by a group in the absolute judgment section (Warren, 1970).

5.3.3.3 Similarities among profiles

For each occupation, reference is made to occupations with similar profiles, that is occupations with similar high and low scores. These occupations form a "cluster" of similar occupations, which have work environments which are similar in terms of their reinforcers (ORPs), but not necessarily in terms of ability requirements (Borgen, Weiss, Tinsley, Dawis and Lofquist, 1972). Please refer to Appendix C for more detail.

5.3.3.4 Summary Statistics

The summary statistics supply more precise information regarding the reinforcers within an occupation. The following statistics are shown for each scale (Rosen et al., 1972):

- the adjusted scale values for each of the reinforcer dimensions,
- adjusted scale values minus one standard error (-1SE) and adjusted scale values plus one standard error (+1SE),
- the proportion (P) of raters who said that the reinforcer dimension was not descriptive of the occupation,
- the overlap (Q) between the scale value estimates and the neutral point for each reinforcer dimension, and
- the unadjusted scale values.

The adjusted scale values are used to produce the graphic pro= file for an ORP, while the standard error columns indicate the amount of agreement amongst raters for each of the 21 MJDQ scales. Greater agreement is reflected by smaller differences between +1SE and -SE.

The P and Q columns, in conjunction with the adjusted scale values, are used to obtain the highly and moderately descrip= tive statements for the occupation.

5.3.3.4.1 Statistical rationale and analysis underlying the summary statistics

The psychometric method used in the MJDQ is based on the work of Gulliksen and Tucker (in Borgen et al., 1968). This method which is also known as the method of multiple rank orders or balanced incomplete blocks, is a special case of the general method of pair comparisons.

The main distinction between the method of multiple rank orders and the method of complete pair comparisons lies in the order in which stimuli are presented. In the case of the former the stimuli are always presented in sets of three or more and the individual is requested to rank them on the basis of some qua= lity or attribute, while in the case of the latter method the stimuli are always presented in pairs. Nonetheless, in both methods each stimulus appears only once with every other stimulus (Borgen et al., 1968).

Ranked responses can be converted to pair comparison responses rendering a frequency matrix. This is possible for any group of raters and displays the number of times each statement was chosen over every other statement by the group (Borgen et al., 1968; Warren, 1970). For detail regarding this conversion, please refer to the MJDQ manual (Borgen et al., 1968).

The obtained group frequency matrix is then converted to a pro= portion matrix which indicates the proportion of times each statement was chosen above every other statement. Following this, scale values can be computed. This is done in various ways, namely:

- by a least-squares solution (Torgerson, 1958 in Borgen et al., 1968) or
- by the composite-standard method, which approximates the least-squares solution and is similar to the method proposed by Guilford (1954 in Borgen et al., 1968).

According to the second (estimation) method above, the mean number of votes for each statement is calculated. Also calcu= lated, is the associated standard deviations which reflect the agreement among raters' rankings for a particular statement.

Following the rationale given by Guilford (1954 in Borgen et al., 1968; and in Gay et al., 1971) 0,50 is added to each (mean) value. The computation of unadjusted and adjusted scale values now follows the same pattern as in the case of the MIQ.

5.3.4 The measurement of need-reinforcer (MIQ-ORP) correspon= dence

Since occupational reinforcer patterns (ORPs) are scaled by the same methods used in scaling the MIQ, comparable scale values are yielded and since ORPs and the MIQ refer to the same set of reinforcers, it is possible to compare MIQ profiles with ORPs.

Warren (1970) refers to the measurement of correspondence and mentions the problematic measurement of profile similarity. Referring to profile similarity measures and differences among them, Warren (1970) names several writers on this topic, for example: Cronbach and Gleser, 1953; Gaier and Lee, 1953 and Nunnally, 1962 and 1967. Discussing the same topic, Betz (1968) also refers to Osgood and Suci, 1952 and Holley and Guilford, 1964.

Basically there are currently three methods of correspondence measurement (Betz, 1968; Warren, 1970):

- the Pearson Rho correlation coefficient (shape index)
- Cronbach and Gleser's (1953) D-statistic (distant measure)
- Holley and Guilford's (1964) G-index.

The Pearson Rho statistic is only sensitive to similarities in shape between profiles, because its computation involves the equating of profiles for both level and dispersion. The D-statistic, however, takes score level and variability into account, as well as profile shape (Warren, 1970).

Nunnally (1962 in Betz, 1968) mentions two criteria by which to judge a measure of relationship:

- it should consider all the information relevant to the comparisons, and
- it should have mathematical properties which permit powerful methods of analysis.

It is clear that the D-statistic meets both criteria.

The computation of the Pearson Rho statistic is based upon the analysis of ranks of each individual's MIQ scales with the ranks based on the mean scale values of the ORP.

The D-statistic is calculated by the formula:

$$D = \sqrt{\Sigma (X_{j1} - X_{j2})^2}$$

where X_{j1} represents the raw MIQ scale scores for an individual and X_{j2} represents the parallel raw score ORP values (Betz, 1968).

The G-index is calculated by the formula G = 2P-1. For detail regarding the computation of this measure please refer to Holley and Guilford (1964 in Betz, 1968).

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CHAPTER 6

RESEARCH RESULTS

The majority of the research results were obtained by computer scoring done by the Industrial Relations Center at the University of Minnesota (Minneapolis, U.S.A.). This center provides a scoring service to all researchers who are registered as qualified users of its material. The scoring is adapted to the specific requirements of each research project as requested by the researcher concerned.

6.1 PROCEDURE

In order to test the hypotheses of this study, different questionnaires were administered to different subgroups, as illustrated in the following table:

TABLE 6.1

ADMINISTRATION OF QUESTIONNAIRES TO SUBGROUPS

	QUESTIONNAIRE			
GROUP	MIQ	MSQ	MJDQ (form S)	MJDQ (form E)
AEN			X	
BEN	X	X		
CEN	X	X		X
AED			X	
BED	X	X		
CED	X	X		X

Different forms of the MJDQ (a measure of reinforcers in the work environment) were administered to the A (or supervisor) and C (or employee) groups. The form E of the MJDQ is meant for application to employees. These two questionnaires are exactly the same except for the different orientation to the rating of an occupation required of supervisors and employees. A

detailed description of this questionnaire is contained in Appendix C.

In addition to the application of the MJDQ, both the MIQ (as a measure of vocational needs) and the MSQ (as a measure of job satisfaction) were administered to the B and C groups. Having done this, it was possible to determine the correspondence between needs and ORP ratings and to correlate it with the MSQ Scales. Depending on the significance of these correlations inferences regarding the main hypothesis could be made.

For the interpretation of the results to be more meaningful, the sample characteristics for each subgroup will be provided. Prior to the testing of the hypotheses, the results will be printed in the following sequence: firstly, the MIQ results, followed by the MSQ and MJDQ results and finally the results concerning the prediction of job satisfaction from need-reinforcer correspondence.

Most of the tables and profiles are self-explanatory. General comments and clarification regarding each group of results will therefore be provided instead of a detailed outlay.

6.2 RESULTS FROM MIQ MEASUREMENT

The group statistics for each subgroup are printed prior to each profile. These statistics consist of data such as the mean adjusted scale value for each MIQ scale, plus its accompanying standard deviation, standard error, skewness and total score. The adjusted scale values are used for the plotting of a profile.

Viewing each profile, it is seen that scale values higher than +1,5 are interpreted as needs of high importance to the specific group, whereas scale values between +1,0 and +1,5, are interpreted as needs of moderate importance. On the other hand, scale values between zero and +0,3 are regarded as needs of low importance and scale values below zero as needs of very low importance.

Interesting to note, is that all seven subgroups or combinations thereof rated Ability Utilization and Achievement as needs of high importance. This indicates that the sample as a whole places a high premium on the use of individual abilities and the required feeling of accomplishment. Typical of the occupation the subjects are engaged in (Teacher: Adult Education) these needs are manifested in the individual's progress in the organization.

Furthermore, Authority and Social Status were rated as needs of very low importance by the whole sample. In other words, the subjects feel that "telling other people what to do" or "doing a job for the status it confers" are very low on their priority list.

Independence and Supervision-Technical were rated as needs of low importance. These findings can be linked to the nature of the occupation the sample is employed in. The job of Teacher-Adult Education requires teamwork to a large extent which was possibly the reason why Independence did not come to the fore as a need of significant importance. Technical Supervision (having a boss who trains his men well) is also not typical of this occupation, for post graduate research and studies are mainly the responsibility of the individual, rather then that of the boss or supervisor.

Some differences appear in the ratings of the two faculties (engineering versus education). For example, the education faculty refers to "Working conditions" as a need of moderate importance, whereas the engineering faculty does not even refer to it. Similarly "Company policies and practices" and "compensation" were rated as of moderate importance by the education faculty, while not even mentioned by the engineering faculty.

Apart from these differences, there appear to be common views with regard to a large number of needs. For example, needs referred to as of moderate importance by both faculties were Advancement, Creativity, Recognition, Responsibility and Social Service. Profile 6.8 presents a composite outlay of the ratings of every subgroup or combination thereof.

The TCT scores presented in table 6.13 give an overview of the consistency with which the subjects responded to the MIQ. Only one case, a member of group CED, had a TCT score higher than the set limit of 254 and was therefore excluded from all further research purposes, since such cases may have a contaminating effect on the results.

TABLE 6.2

SAMPLE CHARACTERISTICS FOR GROUP BEN (N=20)

	N	Percentage	Cumulative Percentage	Mean
AGE:				
26-35 years	10	50,0	50,0	
36-45 years	7	35,0	85,0	37,10
46-55 years	2	10,0	95,0	
56-65 years	1	5,0	100,0	
EDUCATION:				
15 years	1	5,0	5,0	
16 years	1	5,0	10,0	
17 years	4	20,0	30,0	
18 years	7	35,0	65,0	18,10
19 years	3	15,0	80,0	
20 years	4	20,0	100,0	
SEX:				
Male	19	95,0		
Female	1	5,0		
TENURE (years in occupation)				
Less than 2 years	3	15,0	15,0	
2-5 years	8	40,0	55,0	
6-10 years	8	40,0	95,0	
31 years or more	1	5,0	100,0	

TABLE 6.3

MIQ GROUP STATISTICS FOR GROUP BEN

Scale	Mean*	Standard Deviations	Standard Error	Kurtosis	Skewness	Sum
1	1,580	,856	,856	,265	,672	31,600
2	1,625	,603	,135	,415	,326	32,500
3	,235	,682	,153	1,851	,314	4,700
4	1,085	,698	,156	- ,059	- ,605	21,700
5	- ,190	1,014	,227	- ,336	,556	- 3,800
6	,590	,878	,196	- ,054	,130	11,800
7	,555	,864	,193	,034	- ,285	11,100
8	,415	,832	,186	,511	,084	8,300
9	1,290	,878	,196	- ,967	,334	25,800
10	,135	,668	,149	- ,101	,083	2,700
11	1,425	1,168	,261	-1,360	- ,025	28,500
12	1,240	,679	,152	,652	- ,038	24,800
13	1,125	,824	,184	,598	,579	22,500
14	,705	,652	,146	1,794	-1,325	14,100
15	,720	,902	,202	1,874	,721	14,400
16	- ,320	1,020	,228	- ,363	- ,293	- 6,400
17	,440	,788	,176	- ,145	,155	8,800
18	- ,950	,912	,204	2,778	,871	- 1,900
19	,410	,869	,194	- ,151	,676	8,200
20	,520	,538	,120	,762	- ,524	10,400
TCT	61,250	38,898	8,698	1,342	1,410	1225,000

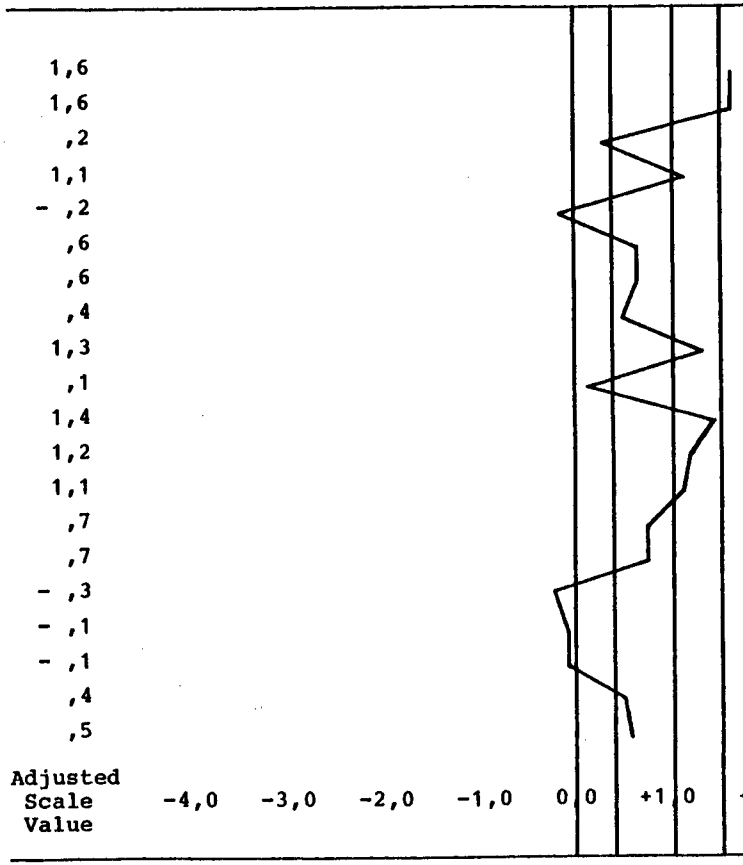
* MEAN = $\bar{X}$ of Adjusted scale value

N = 20

PROFILE 6.1

MIQ PROFILE FOR GROUP BEN

MIQ SCALE	Adjusted Scale Value	Importance of Need
1. Ability Utilization	1,6	High Importance
2. Achievement	1,6	High Importance
3. Activity	,2	Low Importance
4. Advancement	1,1	Moderate Importance
5. Authority	- ,2	Very Low Importance
6. Company Policies and Practices	,6	
7. Compensation	,6	
8. Co-workers	,4	
9. Creativity	1,3	Moderate Importance
10. Independence	,1	Low Importance
11. Moral Values	1,4	Moderate Importance
12. Recognition	1,2	Moderate Importance
13. Responsibility	1,1	Moderate Importance
14 Security	,7	
15. Social Service	,7	
16. Social Status	- ,3	Very Low Importance
17. Supervision - HR	- ,1	
18. Supervision- TEC	- ,1	Very Low Importance
19. Variety	,4	
20. Working Conditions	,5	



MIQ SCALE | Adjusted Scale Value | -4,0 -3,0 -2,0 -1,0 0,0 +1,0 +2,0 +3,0 +4,0

TABLE 6.4

SAMPLE CHARACTERISTICS FOR GROUP CEN (N=14)

	N	Percentage	Cumulative Percentage	Mean
AGE:				
18-25 years	1	7,1	7,1	
26-35 years	9	64,3	71,1	35,07
36-45 years	2	14,3	85,7	
46-55 years	2	14,3	100,0	
EDUCATION:				
17 years	6	42,9	42,9	28,42
19 years	4	28,6	71,4	
20 years	4	28,6	100,0	
SEX:				
Male	14	100,0	100,0	
Female	0	0	0	
TENURE (years in occupation)				
Less than 2 years	3	21,4	21,4	
2-5 years	7	50,0	71,4	4,50
6-10 years	3	21,4	92,9	
11-20 years	1	7,1	100,0	

TABLE 6.5

MIQ GROUP STATISTICS FOR GROUP CEN

Scale	Mean*	Standard Deviation	Standard Error	Kurtosis	Skewness	Sum
1	1,793	,671	,173	1,688	1,103	26,900
2	1,893	,796	,206	2,498	1,558	28,400
3	,693	,689	,178	,284	,082	10,400
4	1,380	,795	,205	2,830	-1,238	20,700
5	,013	,987	,255	- ,797	- ,424	,200
6	,693	,827	,213	- ,564	,326	10,400
7	,873	,811	,209	3,654	-1,594	13,100
8	,653	,620	,160	1,583	- ,096	9,800
9	1,440	,809	,209	,403	,680	21,600
10	,347	,848	,219	- ,277	- ,122	5,200
11	1,593	1,181	,305	-1,152	- ,430	23,900
12	1,500	,438	,113	,043	,195	22,500
13	1,427	,743	,192	-1,067	- ,119	21,400
14	1,260	,637	,164	- ,065	- ,443	18,900
15	1,147	,910	,235	-1,441	- ,002	17,200
16	,253	,851	,220	-1,335	- ,169	3,800
17	,613	,845	,218	- ,824	- ,115	9,200
18	,280	,950	,245	- ,307	- ,687	4,200
19	,773	,815	,210	- ,515	- ,223	11,600
20	,853	,491	,127	- ,802	- ,005	12,800
TCT	77,133	44,627	11,523	56,48	1,975	1157,000

* Mean = $\bar{X}$ of Adjusted scale values

N = 15

PROFILE 6.2

MIQ PROFILE FOR GROUP CEN

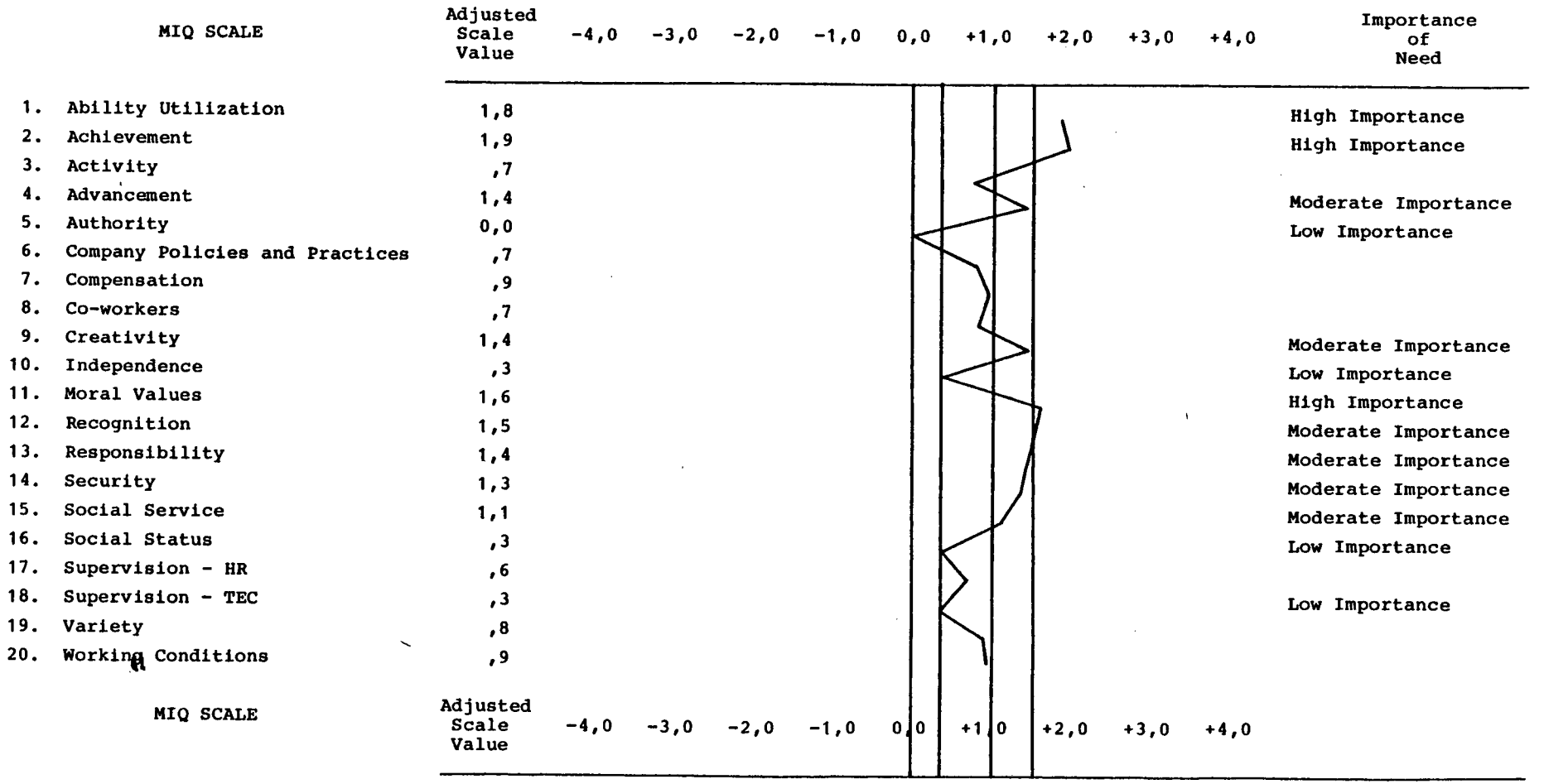


TABLE 6.6

MIQ GROUP STATISTICS FOR GROUPS BEN + CEN

Scale	Mean*	Standard Deviation	Standard Error	Kurtosis	Skewness	Sum
1	1,671	,779	,132	,433	,645	58,500
2	1,740	,695	,117	2,330	1,161	60,900
3	,431	,713	,121	,564	,186	15,100
4	1,211	,744	,126	,658	- ,761	42,400
5	- ,103	,993	,168	- ,804	,153	- 3,600
6	,634	,845	,143	- ,337	,180	22,200
7	,691	,844	,143	,468	- ,735	24,200
8	,517	,748	,126	,718	- ,218	18,100
9	1,354	,840	,142	- ,560	,409	47,400
10	,226	,746	,126	- ,270	,065	7,900
11	1,497	1,159	,196	-1,316	- ,185	52,400
12	1,351	,595	,101	,882	- ,255	47,300
13	1,254	,793	,134	- ,336	,248	43,900
14	,943	,694	,117	1,165	- ,728	33,000
15	,903	,918	,155	- ,072	,368	31,600
16	- ,074	,981	,166	- ,774	- ,011	- 2,600
17	,514	,806	,136	- ,611	,048	18,000
18	,066	,933	,158	,351	,181	2,300
19	,566	,853	,144	- ,747	,264	19,800
20	,663	,537	,091	,406	- ,357	23,200

* Mean = $\bar{X}$ of Adjusted scale values

N = 35

PROFILE 6.3

MIQ PROFILE FOR GROUPS (BEN + CEN)

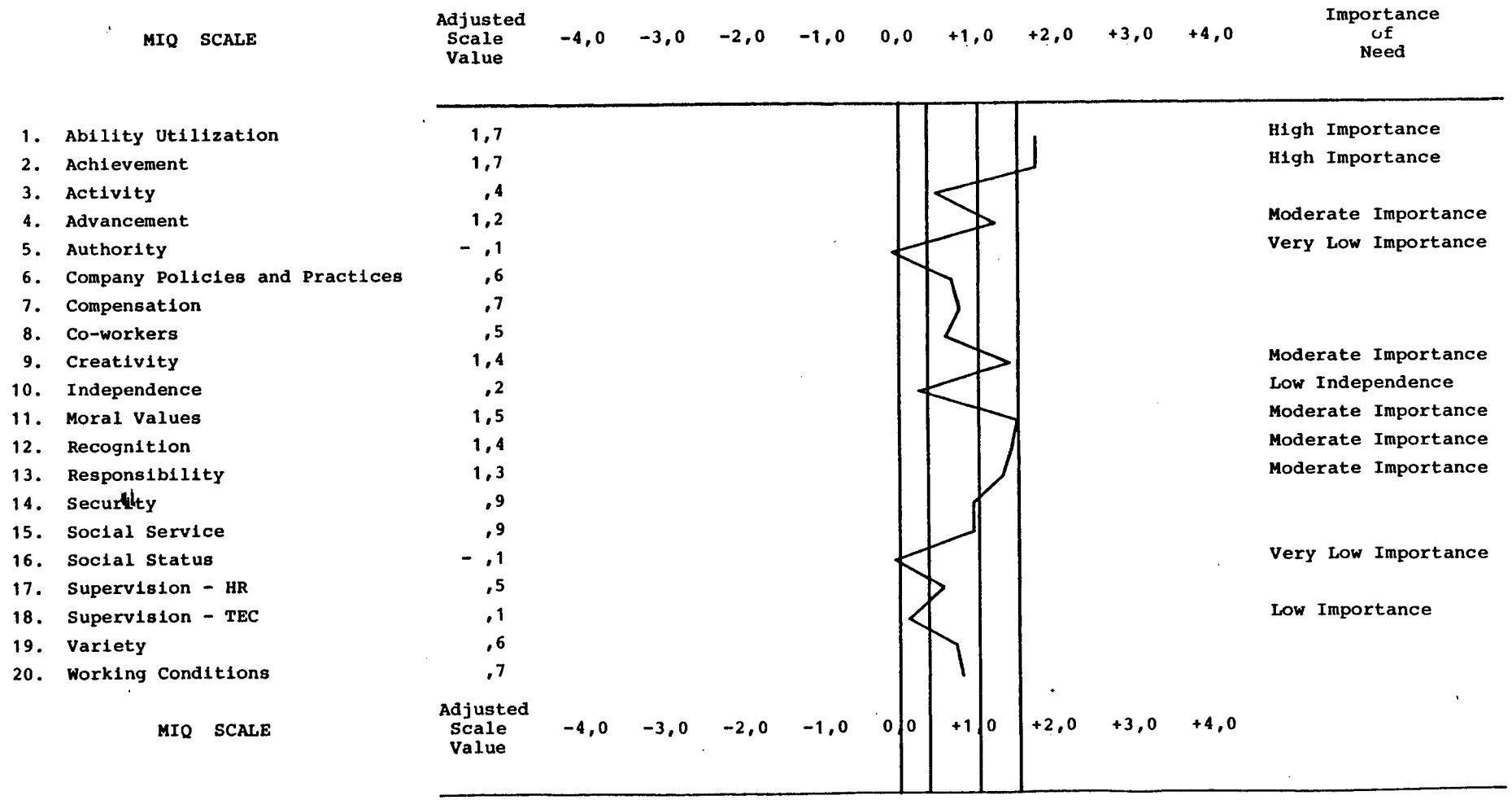


TABLE 6.7

SAMPLE CHARACTERISTICS FOR GROUP BED (N=16)

	N	Percentage	Cumulative Percentage	Mean
AGE:				
26-35 years	3	18,8	18,8	
36-45 years	8	50,0	68,8	44,31
46-55 years	1	6,3	75,0	
56-65 years	4	25,0	100,0	
EDUCATION:				
16 years	2	12,5	12,5	
17 years	3	18,8	31,3	
18 years	1	6,3	37,5	18,56
19 years	4	25,0	62,5	
20 years	6	37,5	100,0	
SEX:				
Male	11	68,8		
Female	5	31,3		
TENURE (years in occupation)				
Less than 2 years	4	25,0	25,0	
2-5 years	5	31,3	56,3	
6-10 years	2	12,5	68,8	8,44
11-20 years	4	25,0	93,8	
21-30 years	1	6,3	100,0	

TABLE 6.8

MIQ GROUP STATISTICS FOR GROUP BED

Scale	Mean*	Standard Deviation	Standard Error	Kurtosis	Skewness	Sum
1	1,706	,504	,126	- ,061	- ,560	27,300
2	1,825	,683	,171	- ,892	,522	29,200
3	,137	,856	,214	- ,668	- ,703	2,200
4	1,094	,752	,188	- ,631	,190	17,500
5	- ,006	,697	,174	- ,469	- ,471	- ,100
6	,956	,497	,124	- ,664	,198	15,300
7	,706	,807	,202	- ,573	,375	11,300
8	,481	,739	,185	2,110	,616	7,700
9	1,425	,451	,113	- ,657	,556	22,800
10	,194	,884	,221	- ,478	,386	3,100
11	1,281	1,180	,295	-1,677	,170	20,500
12	1,175	,632	,158	-1,097	,319	18,800
13	,994	,615	,154	,355	- ,782	15,900
14	,844	,738	,184	- ,828	,280	13,500
15	1,606	,910	,227	,573	- ,155	25,700
16	- ,463	,783	,196	,706	,935	- 7,400
17	,669	,953	,238	4,559	1,765	10,700
18	,563	,486	,121	,816	- ,230	9,000
19	,600	,831	,208	-1,225	,232	9,600
20	,950	,691	,173	- ,081	,274	15,200
TCT	76,875	41,710	10,427	1,172	1,255	1230,000

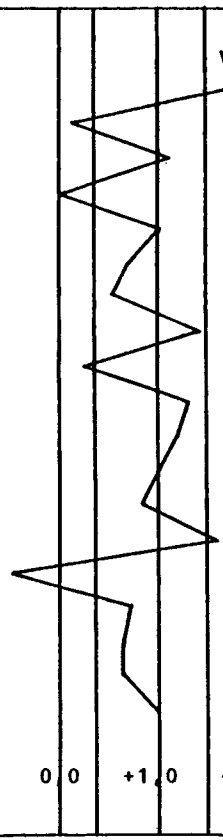
* Mean = $\bar{X}$ of Adjusted scale values

N = 16

PROFILE 6.4

MIQ PROFILE FOR GROUP BED

MIQ SCALE	Adjusted Scale Value	Importance of Need
1. Ability Utilization	1,7	High Importance
2. Achievement	1,8	High Importance
3. Activity	,1	Low Importance
4. Advancement	1,1	Moderate Importance
5. Authority	0,0	Low Importance
6. Company Policies and Practices	1,0	Moderate Importance
7. Compensation	,7	
8. Co-workers	,5	
9. Creativity	1,4	Moderate Importance
10. Independence	,2	Low Importance
11. Moral Values	1,3	Moderate Importance
12. Recognition	1,2	Moderate Importance
13. Responsibility	1,0	Moderate Importance
14. Security	,8	
15. Social Service	1,6	High Importance
16. Social Status	- ,5	Very Low Importance
17. Supervision - HR	,7	
18. Supervision - TEC	,6	
19. Variety	,6	
20. Working Conditions	1,0	Moderate Importance



MIQ SCALE | Adjusted Scale Value | -4,0 -3,0 -2,0 -1,0 0,0 +1,0 +2,0 +3,0 +4,0

TABLE 6.9

SAMPLE CHARACTERISTICS FOR GROUP CED (N=17)

	N	Percentage	Cumulative Percentage	Mean
AGE:				
26-35 years	5	29,4	29,4	
36-45 years	7	41,2	70,6	41,05
46-55 years	2	11,8	82,4	
56-65 years	3	17,6	100,0	
EDUCATION:				
17 years	2	11,8	11,8	
18 years	3	17,6	29,4	18,94
19 years	6	35,3	64,7	
20 years	6	35,3	100,0	
SEX:				
Male	10	58,8		
Female	7	41,2		
TENURE (years in occupation)				
Less than 2 years	4	23,5	23,5	
2-5 years	8	47,1	70,6	
6-10 years	2	11,8	82,4	6,66
11-20 years	2	11,8	94,1	
21-30 years	1	5,9	100,0	

TABLE 6.10

MIQ GROUP STATISTICS FOR GROUP CED

Scale	Mean*	Standard Deviation	Standard Error	Kurtosis	Skewness	Sum
1	1,700	,598	,149	,022	,805	27,200
2	1,906	,503	,126	,359	,556	30,500
3	,075	,737	,184	2,680	- ,982	1,200
4	1,313	,909	,227	,165	- ,496	21,000
5	- ,356	,627	,157	,034	,606	- 5,700
6	1,000	,624	,156	- ,134	- ,549	16,000
7	1,406	,795	,199	,389	,556	22,500
8	,769	,679	,170	- ,729	- ,308	12,300
9	1,444	,716	,179	- ,926	- ,149	23,100
10	,319	,907	,227	- ,727	- ,203	5,100
11	1,356	1,092	,273	- ,850	- ,198	21,700
12	1,100	,514	,128	- ,041	,172	17,600
13	1,156	,798	,200	,446	,467	18,500
14	1,594	,537	,134	-1,317	- ,350	25,500
15	,837	,829	,207	- ,797	,235	13,400
16	,069	1,072	,268	,094	,429	1,100
17	,731	,971	,243	2,072	,627	11,700
18	,369	,812	,203	,129	- ,712	5,900
19	,337	,680	,170	-1,046	- ,167	5,400
20	1,188	,721	,180	- ,863	,348	19,000
TCT	63,294	69,085	16,756	13,246	3,460	1076,000

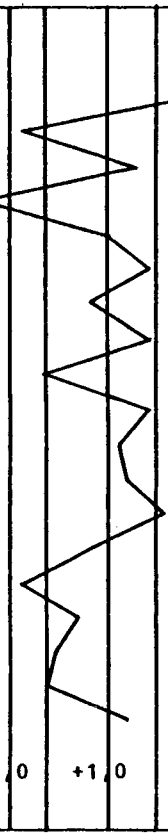
* Mean = $\bar{X}$ of Adjusted scale values

N = 16 (One case was eliminated due to escessive TCT's).

PROFILE 6.5

MIQ PROFILE FOR GROUP CED

MIQ SCALE	Adjusted Scale Value	Importance of Need
1. Ability Utilization	1,7	High Importance
2. Achievement	1,9	High Importance
3. Activity	,1	Low Importance
4. Advancement	1,3	Moderate Importance
5. Authority	- ,4	Very Low Importance
6. Company Policies and Practices	1,0	Moderate Importance
7. Compensation	1,4	Moderate Importance
8. Co-workers	,8	
9. Creativity	1,4	Moderate Importance
10. Independence	,3	Low Importance
11. Moral Values	1,4	Moderate Importance
12. Recognition	1,1	Moderate Importance
13. Responsibility	1,2	Moderate Importance
14. Security	1,6	High Importance
15. Social Service	,8	
16. Social Status	,1	Low Importance
17. Supervision - HR	,7	
18. Supervision - TEC	,4	
19. Variety	,3	Low Importance
20. Working Conditions	1,2	Moderate Importance

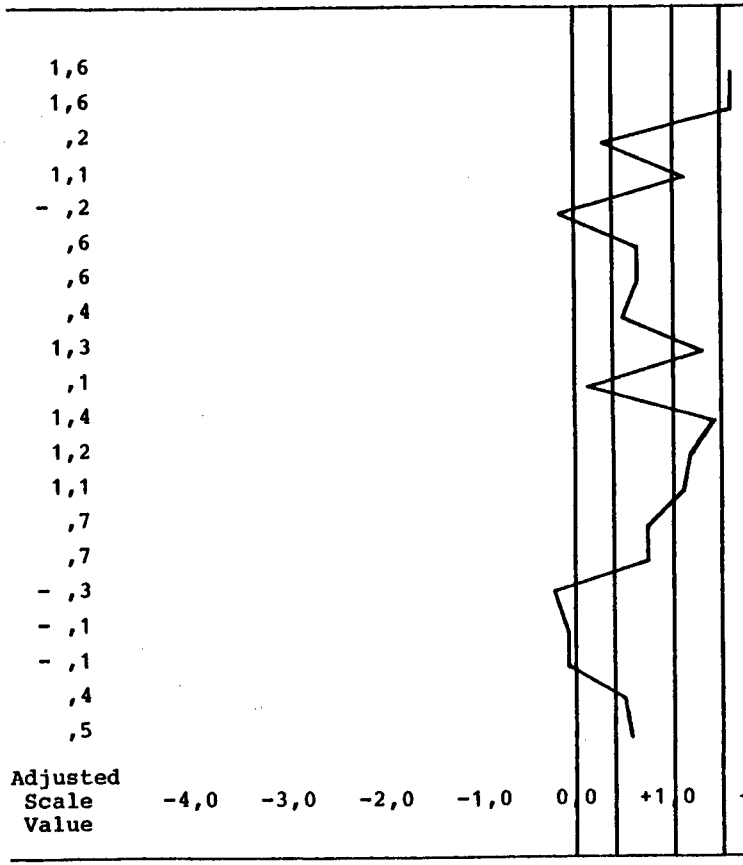


MIQ SCALE | Adjusted Scale Value | -4,0 -3,0 -2,0 -1,0 0,0 +1,0 +2,0 +3,0 +4,0

PROFILE 6.1

MIQ PROFILE FOR GROUP BEN

MIQ SCALE	Adjusted Scale Value	Importance of Need
1. Ability Utilization	1,6	High Importance
2. Achievement	1,6	High Importance
3. Activity	,2	Low Importance
4. Advancement	1,1	Moderate Importance
5. Authority	- ,2	Very Low Importance
6. Company Policies and Practices	,6	
7. Compensation	,6	
8. Co-workers	,4	
9. Creativity	1,3	Moderate Importance
10. Independence	,1	Low Importance
11. Moral Values	1,4	Moderate Importance
12. Recognition	1,2	Moderate Importance
13. Responsibility	1,1	Moderate Importance
14 Security	,7	
15. Social Service	,7	
16. Social Status	- ,3	Very Low Importance
17. Supervision - HR	- ,1	
18. Supervision- TEC	- ,1	Very Low Importance
19. Variety	,4	
20. Working Conditions	,5	

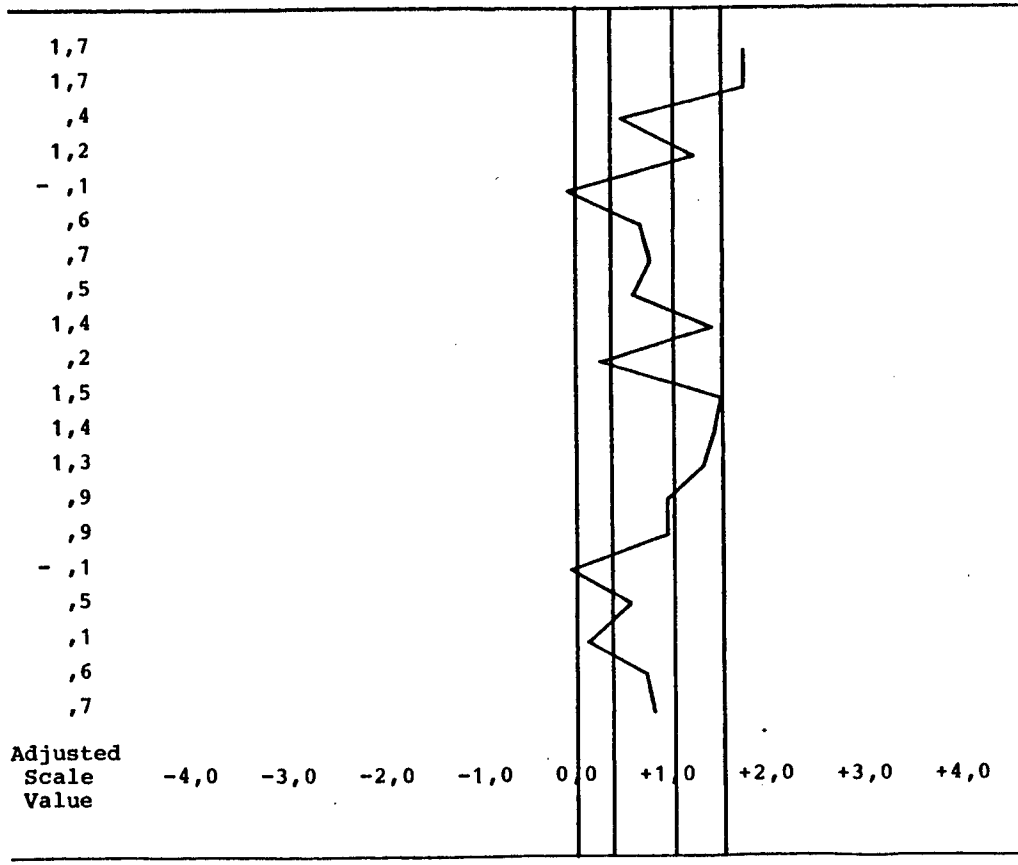


MIQ SCALE | Adjusted Scale Value | -4,0 -3,0 -2,0 -1,0 0,0 +1,0 +2,0 +3,0 +4,0

PROFILE 6.3

MIQ PROFILE FOR GROUPS (BEN + CEN)

MIQ SCALE	Adjusted Scale Value	Importance of Need
1. Ability Utilization	1,7	High Importance
2. Achievement	1,7	High Importance
3. Activity	,4	
4. Advancement	1,2	Moderate Importance
5. Authority	- ,1	Very Low Importance
6. Company Policies and Practices	,6	
7. Compensation	,7	
8. Co-workers	,5	
9. Creativity	1,4	Moderate Importance
10. Independence	,2	Low Independence
11. Moral Values	1,5	Moderate Importance
12. Recognition	1,4	Moderate Importance
13. Responsibility	1,3	Moderate Importance
14. Security	,9	
15. Social Service	,9	
16. Social Status	- ,1	Very Low Importance
17. Supervision - HR	,5	
18. Supervision - TEC	,1	Low Importance
19. Variety	,6	
20. Working Conditions	,7	

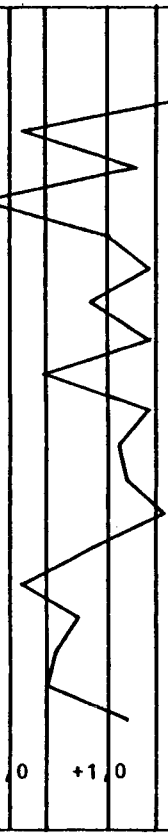


MIQ SCALE | Adjusted Scale Value | -4,0 -3,0 -2,0 -1,0 0,0 +1,0 +2,0 +3,0 +4,0

PROFILE 6.5

MIQ PROFILE FOR GROUP CED

MIQ SCALE	Adjusted Scale Value	Importance of Need
1. Ability Utilization	1,7	High Importance
2. Achievement	1,9	High Importance
3. Activity	,1	Low Importance
4. Advancement	1,3	Moderate Importance
5. Authority	- ,4	Very Low Importance
6. Company Policies and Practices	1,0	Moderate Importance
7. Compensation	1,4	Moderate Importance
8. Co-workers	,8	
9. Creativity	1,4	Moderate Importance
10. Independence	,3	Low Importance
11. Moral Values	1,4	Moderate Importance
12. Recognition	1,1	Moderate Importance
13. Responsibility	1,2	Moderate Importance
14. Security	1,6	High Importance
15. Social Service	,8	
16. Social Status	,1	Low Importance
17. Supervision - HR	,7	
18. Supervision - TEC	,4	
19. Variety	,3	Low Importance
20. Working Conditions	1,2	Moderate Importance



MIQ SCALE | Adjusted Scale Value | -4,0 -3,0 -2,0 -1,0 0,0 +1,0 +2,0 +3,0 +4,0

TABLE 6.11

MIQ GROUP STATISTICS FOR GROUPS BED + CED

Scale	Mean*	Standard Deviation	Standard Error	Kurtosis	Skewness	Sum
1	1,703	,544	,096	- ,135	,278	54,500
2	1,866	,591	,104	- ,540	,452	59,700
3	,106	,787	,139	,304	- ,756	3,400
4	1,203	,828	,146	- ,373	- ,154	38,500
5	- ,181	,676	,120	- ,858	,066	- 5,800
6	,978	,555	,098	- ,369	- ,260	31,300
7	1,056	,864	,153	- ,097	,316	33,800
8	,625	,713	,126	,175	,137	20,000
9	1,434	,589	,104	- ,522	,014	45,900
10	,256	,864	,153	- ,787	,073	8,200
11	1,319	1,119	,198	-1,326	- ,001	42,200
12	1,138	,568	,100	- ,699	,229	36,400
13	1,075	,706	,125	,657	,165	34,400
14	1,219	,740	,131	- ,909	- ,301	39,000
15	1,222	,941	,166	- ,365	,110	39,100
16	- ,197	,962	,170	,320	,743	- 6,300
17	,700	,947	,167	,2464	1,120	22,400
18	,466	,666	,118	1,046	- ,840	14,900
19	,469	,759	,134	- ,870	,189	15,000
20	1,069	,705	,125	- ,535	,307	34,200

* Mean = $\bar{X}$ of Adjusted scale values

N = 32

PROFILE 6.6

MIQ PROFILE FOR GROUPS (BED + CED)

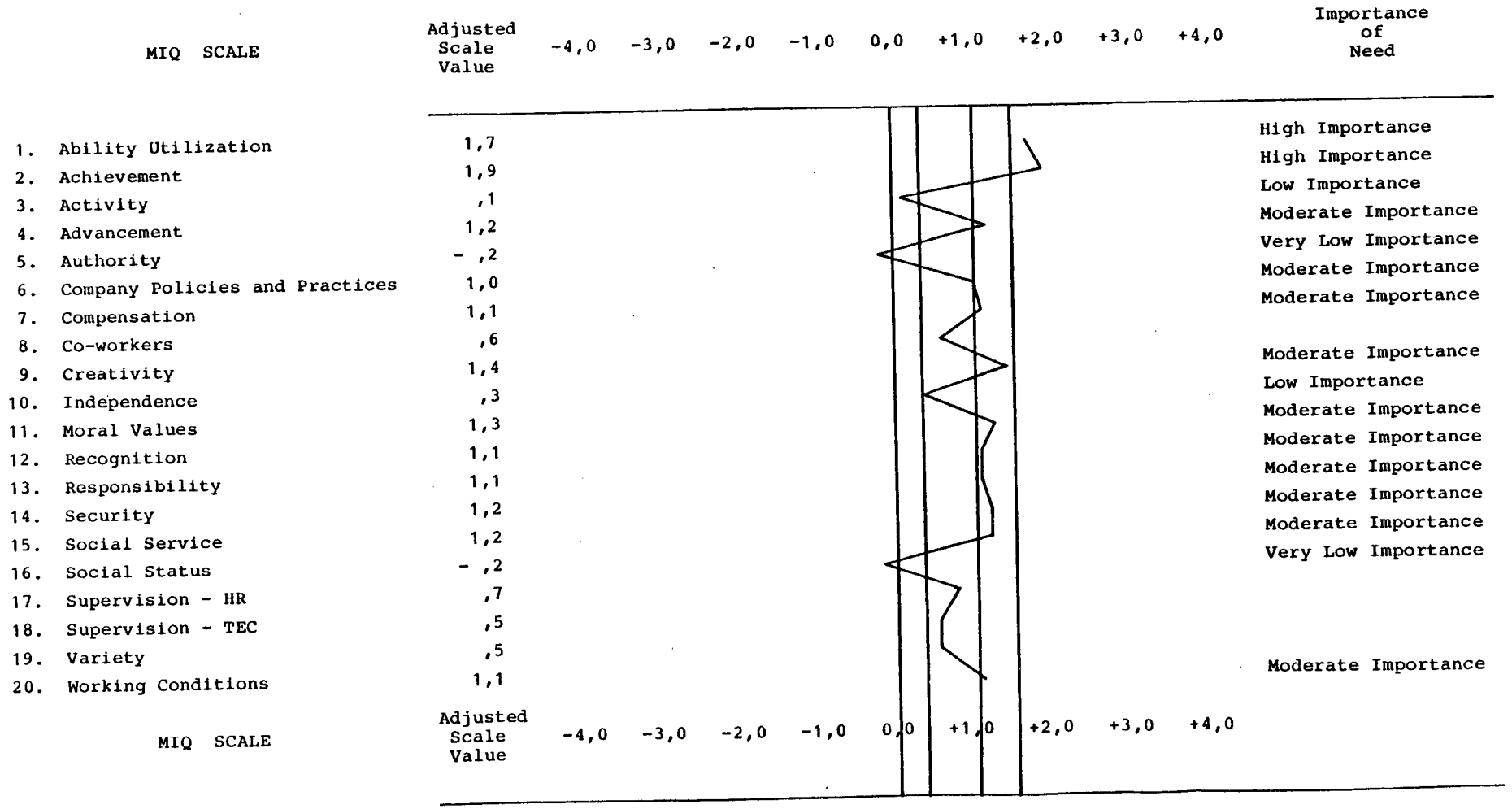


TABLE 6.12

MIQ GROUP STATISTICS FOR GROUPS BEN + BED + CED + CEN

Scale	Mean*	Standard Deviation	Standard Error	Kurtosis	Skewness	Sum
1	1,687	,672	,082	,568	,544	113,000
2	1,800	,645	,079	1,087	,834	120,000
3	,276	,761	,093	,725	- ,364	18,500
4	1,207	,780	,095	- ,008	- ,417	80,900
5	- ,140	,851	,104	- ,519	,188	- 9,400
6	,799	,737	,090	- ,177	- ,179	53,500
7	,866	,867	,106	,503	- ,183	58,000
8	,569	,728	,089	,419	- ,071	38,100
9	1,393	,727	,089	- ,381	,262	93,300
10	,240	,799	,098	- ,583	,077	16,100
11	1,412	1,135	,139	-1,325	- ,091	94,600
12	1,249	,588	,072	- ,094	,015	83,700
13	1,169	,753	,092	,011	,150	78,300
14	1,075	,725	,089	- ,099	- ,430	72,000
15	1,055	,936	,114	- ,354	,237	70,700
16	- ,133	,966	,118	- ,439	,331	- 8,900
17	,603	,874	,107	1,513	,717	40,400
18	,257	,835	,102	,306	- ,290	17,200
19	,519	,805	,098	- ,765	,251	34,800
20	,857	,651	,080	,258	,310	57,400

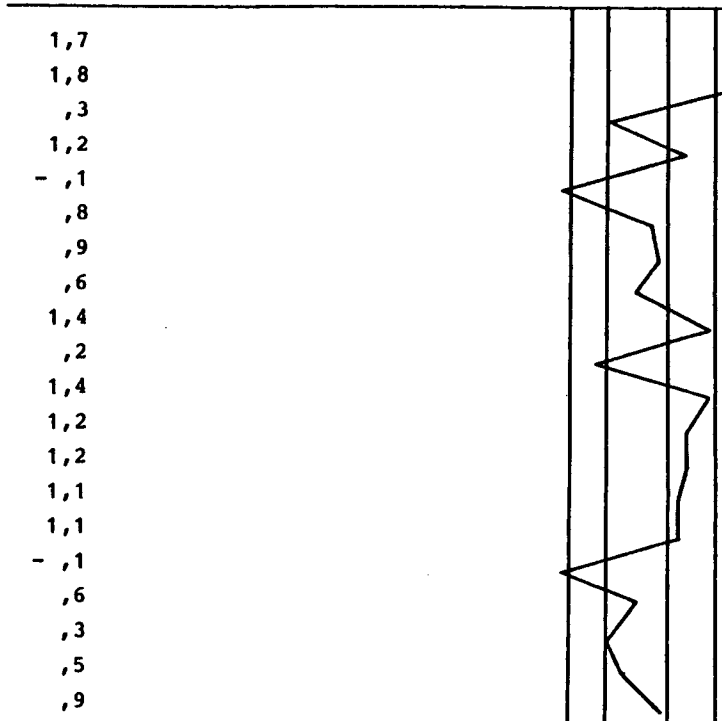
* Mean = $\bar{X}$ of Adjusted scale value

N = 67

PROFILE 6.7

MIQ PROFILE FOR GROUPS (BEN + BED + CEN + CED)

MIQ SCALE	Adjusted Scale Value	Importance of Need
1. Ability Utilization	1,7	High Importance
2. Achievement	1,8	High Importance
3. Activity	,3	Low Importance
4. Advancement	1,2	Moderate Importance
5. Authority	- ,1	Very Low Importance
6. Company Policies and Practices	,8	
7. Compensation	,9	
8. Co-workers	,6	
9. Creativity	1,4	Moderate Importance
10. Independence	,2	Low Importance
11. Moral Values	1,4	Moderate Importance
12. Recognition	1,2	Moderate Importance
13. Responsibility	1,2	Moderate Importance
14. Security	1,1	Moderate Importance
15. Social Service	1,1	Moderate Importance
16. Social Status	- ,1	Very Low Importance
17. Supervision - HR	,6	
18. Supervision - TEC	,3	Low Importance
19. Variety	,5	
20. Working Conditions	,9	



MIQ SCALE | Adjusted Scale Value | -4,0 -3,0 -2,0 -1,0 0,0 +1,0 +2,0 +3,0 +4,0

TABLE 6.13

DISTRIBUTION OF TOTAL CIRCULAR TRIAD (TCT) SCORES FOR TOTAL SAMPLE

TCT Score	Frequency	Percentage	Cumulative Percentage
0 - 15	2	2,94	2,94
16 - 30	9	13,24	16,18
31 - 45	12	17,65	33,83
46 - 60	14	20,59	54,42
61 - 75	8	11,76	66,18
76 - 90	11	16,18	82,36
91 - 105	2	2,94	85,30
106 - 120	4	5,88	91,18
121 - 135	1	1,47	92,65
136 - 150	0	0,00	92,65
151 - 165	2	2,94	95,59
166 - 180	1	1,47	97,06
181 - 195	0	0,00	97,06
196 - 210	0	0,00	97,06
211 - 225	1	1,47	98,53
226 - 254	0	0,00	98,53
255 - 320 (invalid)	1	1,47	100,00

N	= 68		
Mean	= 68,941	Standard Deviation	= 49,298
Standard Error	= 5,978	Variance	= 2430,265
Median	= 54,500	Kurtosis	= 9,622
Mode	= 46,000	Skewness	= 2,593
Range	= 306,000	Sum	= 4688,000
Minimum	= 12,000	Maximum	= 318,000

PROFILE 6.8

COMPOSITE MIQ PROFILE DISPLAYING IMPORTANCE OF NEEDS FOR VARIOUS GROUPS

GROUP

		BEN	CEN	BEN+CEN	BED	CED	BED+CED	BEN+CEN+BED+CED
1.	Ability Utilization	High	High	High	High	High	High	High
2.	Achievement	High	High	High	High	High	High	High
3.	Activity	Low			Low	Low	Low	Low
4.	Advancement	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
5.	Authority	Very Low	Low	Very Low	Low	Very Low	Very Low	Very Low
6.	Company Policies and Practices				Moderate	Moderate	Moderate	
7.	Compensation					Moderate	Moderate	
8.	Co-workers							
9.	Creativity	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
10.	Independence	Low	Low	Low	Low	Low	Low	Low
11.	Moderate	Moderate	High	Moderate	Moderate	Moderate	Moderate	Moderate
12.	Recognition	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
13.	Responsibility	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
14.	Security		Moderate			High	Moderate	Moderate
15.	Social Service		Moderate		High		Moderate	Moderate
16.	Social Status	Very Low	Low	Very Low	Very Low	Low	Very Low	Very Low
17.	Supervision - HR							
18.	Supervision - TEC	Very Low	Low	Low				Low
19.	Variety					Low		
20.	Working conditions				Moderate	Moderate	Moderate	

6.3 RESULTS FROM MSQ MEASUREMENT

Each table supplies the group statistics for every subgroup. For each scale of the MSQ, the mean of the raw scores is given, plus the standard deviation, standard error and Hoyt reliability coefficients. The fifth column presents the average response to each MSQ scale, followed by an interpretation in the sixth column.

The Hoyt reliability coefficients are measures of the internal consistency reliability of the MSQ as estimated by the analysis-of-variance method. For more detail regarding this analysis-of-variance approach, please refer to Guilford (1954). The lowest reported Hoyt reliability coefficient was 0,479 for scale 16 in the case of group CED, while the highest was 0,976 for scale 4 in the case of group BED.

The interpretation of the MSQ Scales was inferred from the average response of the group to each scale. This method was used because no suitable normative group was available for interpretation of the MSQ results if the percentile method (already referred to in Chapter 5) was to be used. By calculating the average item response on each scale, it was possible to identify areas of greater or lesser satisfaction for the group, as well as the approximate levels.

The average response to any scale was interpreted in the following manner:

AVERAGE RESPONSE	SIGNIFICANCE
Any value between zero and 1,49	Not satisfied
Any value between 1,50 and 2,49	Only slightly satisfied
Any value between 2,50 and 3,49	Satisfied
Any value between 3,50 and 4,49	Very satisfied
Any value above 4,50	Extremely satisfied.

An analysis of the MSQ results indicates that the various groups (and therefore the Sample as a whole) are Satisfied with most aspects of their job. Aspects mentioned, are:

Advancement ..... the chances for advancement in the job
Authority ..... the chances to tell other people what to do
Company policies .... the way the company policies are put into
and practices practice
Compensation ..... the pay and amount of work done
Recognition ..... the praise received for doing a good job
Social status..... the chance to be "somebody" in the commu=
nity
Working conditions ...the working conditions

However, some groups (for example CED en CEN) mentioned aspects with which they were only slightly satisfied, namely:
Advancement ..... the chances for advancement in the job
Compensation ..... the pay and amount of work done
It was especially the latter scale which received most atten=tion.

Aspects of the job of Teacher: Adult Education with which the groups were very satisfied , include the following:

Ability utilization ..the chance to do something that makes use of my abilities
Activity ..... being able to keep busy all the time
Co-workers ..... the way co-workers get along with each other
Creativity ..... the chance to try own methods of doing the job
Independence ..... the chance to work alone on the job
Moral values ..... being able to do things that do not go agains the conscience
Security ..... the way the job provides for steady em=ployment
Social service ..... the chance to do things for other people
Supervision-Human ... the way the boss handles his men
Relations

The twenty-first scale included in the MSQ is a measure of gene=ral job satisfaction. Examining this scale in each table it is evident that all the subgroups are generally satisfied with the various aspects measured. This finding is contrary to that of Barnes (1960) and Moore and Renck (1955), both mentioned by

Costello and Lee (1974). These researchers revealed that profes= sional employees have relatively unfavourable job attitudes and express low job satisfaction.

TABLE 6.14

MSQ GROUP STATISTICS FOR GROUP BEN

Scale	Mean*	Standard Deviation	Standard Error	Hoyt Reli= ability	Average Response	Significance
1	17,200	2,876	1,160	0,837	3,44	Satisfied
2	16,900	2,511	1,053	0,824	3,38	Satisfied
3	17,900	3,478	0,800	0,947	3,58	Very Satisfied
4	13,050	3,471	0,872	0,937	2,61	Satisfied
5	14,700	2,677	0,781	0,915	2,94	Satisfied
6	13,900	3,905	0,971	0,938	2,78	Satisfied
7	12,400	3,315	1,053	0,899	2,48	Slightly Satisfied
8	15,500	2,212	1,042	0,778	3,10	Satisfied
9	18,100	1,889	0,930	0,758	3,62	Very Satisfied
10	17,200	2,142	0,975	0,793	3,44	Satisfied
11	17,700	3,164	1,063	0,887	3,54	Very Satisfied
12	14,700	3,466	0,837	0,942	2,94	Satisfied
13	16,350	2,477	1,077	0,811	3,27	Satisfied
14	16,450	3,220	0,992	0,905	3,29	Satisfied
15	16,950	2,373	0,818	0,881	3,39	Satisfied
16	15,750	2,511	0,839	0,888	3,15	Satisfied
17	15,400	4,604	1,092	0,944	3,08	Satisfied
18	15,150	3,870	0,897	0,946	3,03	Satisfied
19	15,850	2,739	0,951	0,880	3,17	Satisfied
20	17,600	3,926	0,630	0,974	3,52	Very Satisfied
21	64,000	8,316	2,748	0,891	2,56	Satisfied

*Mean = $\bar{X}$ of raw scores

N = 20

TABLE 6.15

MSQ GROUP STATISTICS FOR GROUP CEN

Scale	Mean*	Standard Deviation	Standard Error	Hoyt Reli= ability	Average Response	Significance
1	17,333	3,848	0,886	0,947	3,47	Satisfied
2	17,333	4,044	1,237	0,906	3,55	Very Satisfied
3	17,333	4,334	1,247	0,917	3,55	Very Satisfied
4	12,133	5,579	0,667	0,986	2,43	Slightly Satisfied
5	13,533	4,749	0,735	0,976	2,71	Satisfied
6	14,333	4,865	1,230	0,936	2,87	Satisfied
7	12,133	4,438	1,334	0,910	2,43	Slightly Satisfied
8	15,600	4,626	1,015	0,952	3,12	Satisfied
9	19,733	3,035	1,083	0,873	3,95	Very Satisfied
10	19,067	3,595	1,044	0,916	3,81	Very Satisfied
11	20,800	3,668	0,984	0,928	4,16	Very Satisfied
12	15,200	5,532	0,876	0,975	3,04	Satisfied
13	17,800	3,256	1,343	0,830	3,56	Very Satisfied
14	19,800	3,342	1,667	0,751	3,96	Very Satisfied
15	17,867	3,292	0,775	0,945	3,57	Very Satisfied
16	16,200	4,395	1,082	0,939	3,24	Satisfied
17	17,333	5,538	1,058	0,964	3,47	Satisfied
18	16,400	5,755	1,312	0,948	3,28	Satisfied
19	16,267	3,990	1,321	0,890	3,25	Satisfied
20	18,600	4,517	0,897	0,961	3,72	Very Satisfied
21	68,000	12,745	3,204	0,937	2,72	Satisfied

*Mean = $\bar{X}$ of raw scores

N = 15

TABLE 6.16

MSQ GROUP STATISTICS FOR GROUP (BEN + CEN)

Scale	Mean*	Standard Deviation	Standard Error	Hoyt Reli= ability	Average Response	Significance
1	17,257	3,275	1,040	0,899	3,45	Satisfied
2	17,257	3,230	1,134	0,877	3,45	Satsified
3	17,829	3,808	1,006	0,930	3,56	Very Satisfied
4	12,657	4,445	0,782	0,969	2,53	Satisfied
5	14,200	3,693	0,768	0,957	2,84	Satisfied
6	14,086	4,280	1,081	0,936	2,82	Satisfied
7	12,286	3,777	1,178	0,903	2,46	Slightly Satisfied
8	15,543	3,398	1,019	0,910	3,11	Satisfied
9	18,800	2,541	1,004	0,844	3,76	Very Satisfied
10	18,000	2,961	0,998	0,886	3,60	Very Satisfied
11	19,029	3,682	1,017	0,924	3,80	Very Satisfied
12	14,914	4,402	0,852	0,963	2,98	Satisfied
13	16,971	2,885	1,256	0,811	3,39	Satisfied
14	17,886	3,636	1,379	0,856	3,58	Very Satisfied
15	17,343	2,796	0,805	0,917	3,47	Satisfied
16	15,943	3,395	0,983	0,916	3,19	Satisfied
17	16,229	5,042	1,083	0,954	3,24	Satisfied
18	15,686	4,733	1,090	0,947	3,14	Satisfied
19	16,029	3,285	1,113	0,885	3,20	Satisfied
20	18,029	4,155	0,766	0,966	3,60	Very Satisfied
21	65,714	10,467	2,986	0,919	2,63	Satisfied

*Mean = $\bar{X}$ of raw scores

N = 35

TABLE 6.17

MSQ GROUP STATISTICS FOR GROUP BED

Scale	Mean*	Standard Deviation	Standard Error	Hoyt Reli= ability	Average Response	Significance
1	17,375	4,080	0,981	0,942	3,47	Satisfied
2	16,688	3,825	1,348	0,876	3,34	Satisfied
3	18,813	3,582	1,175	0,892	3,76	Very Satisfied
4	14,188	5,307	0,820	0,976	2,84	Satisfied
5	15,438	3,265	1,130	0,880	3,09	Satisfied
6	15,688	4,159	1,012	0,941	3,14	Satisfied
7	13,313	3,301	1,010	0,906	2,66	Satisfied
8	18,125	3,862	1,026	0,929	3,62	Very Satisfied
9	18,938	3,172	1,436	0,795	3,79	Very Satisfied
10	17,688	2,845	1,251	0,807	3,54	Very Satisfied
11	20,813	3,124	1,300	0,827	4,16	Very Satisfied
12	15,250	3,296	0,948	0,917	3,05	Satisfied
13	18,063	2,816	1,415	0,748	3,61	Very Satisfied
14	18,875	2,754	1,237	0,798	3,77	Very Satisfied
15	18,813	3,781	0,932	0,939	3,76	Very Satisfied
16	16,125	3,897	1,162	0,911	3,22	Satisfied
17	17,813	4,430	1,612	0,868	3,56	Very Satisfied
18	18,063	4,343	1,228	0,920	3,61	Very Satisfied
19	17,313	3,591	1,440	0,839	3,46	Satisfied
20	16,750	3,568	0,898	0,937	3,35	Satisfied
21	69,188	9,189	3,099	0,886	2,77	Satisfied

*Mean = $\bar{X}$ of raw scores

N = 16

TABLE 6.18

MSQ GROUP STATISTICS FOR GROUP CED

Scale	Mean*	Standard Deviation	Standard Error	Hoyt Reli= ability	Average Response	Significance
1	17,824	4,720	0,875	0,972	3,56	Very Satisfied
2	17,412	3,809	1,344	0,876	3,48	Satisfied
3	18,588	4,611	1,080	0,945	3,72	Very Satisfied
4	14,529	4,771	0,867	0,967	2,90	Satisfied
5	15,824	3,575	1,337	0,860	3,16	Satisfied
6	14,941	3,112	1,375	0,805	2,99	Satisfied
7	12,059	4,023	1,154	0,918	2,41	Slightly Satisfied
8	19,000	2,574	1,101	0,817	3,80	Very Satisfied
9	18,824	3,746	1,103	0,913	3,76	Very Satisfied
10	18,471	3,744	1,324	0,875	3,69	Very Satisfied
11	20,471	4,002	1,229	0,906	4,09	Very Satisfied
12	15,294	3,670	0,928	0,936	3,06	Satisfied
13	17,941	3,455	1,490	0,814	3,59	Very Satisfied
14	20,529	3,676	1,207	0,892	4,10	Very Satisfied
15	18,824	4,019	0,923	0,947	3,76	Very Satisfied
16	15,824	2,455	1,773	0,479	3,16	Satisfied
17	18,471	4,875	1,462	0,910	3,69	Very Satisfied
18	17,059	3,750	1,398	0,861	3,41	Satisfied
19	17,235	3,615	1,427	0,844	3,45	Satisfied
20	16,941	3,344	1,080	0,896	3,39	Satisfied
21	70,118	10,845	3,387	0,902	2,80	Satisfied

*Mean = $\bar{X}$ of raw scores

N = 17

TABLE 6.19

MSQ GROUP STATISTICS FOR GROUP (BED + CED)

Scale	Mean*	Standard Deviation	Standard Error	Hoyt Reli= ability	Average Response	Significance
1	17,606	4,358	0,909	0,957	3,52	Very Satisfied
2	17,061	3,774	1,326	0,877	3,41	Satisfied
3	18,697	4,081	1,115	0,925	3,74	Very Satisfied
4	14,364	4,961	0,834	0,972	2,87	Satisfied
5	15,636	3,380	1,285	0,856	3,13	Satisfied
6	15,303	3,618	1,222	0,886	3,06	Satisfied
7	12,667	3,688	1,081	0,914	2,53	Satisfied
8	18,576	3,241	1,068	0,891	3,71	Very Satisfied
9	18,879	3,426	1,281	0,860	3,77	Very Satisfied
10	18,091	3,311	1,286	0,849	3,62	Very Satisfied
11	20,636	3,552	1,278	0,870	4,13	Very Satisfied
12	15,273	3,439	0,936	0,926	3,05	Satisfied
13	18,00	3,112	1,475	0,775	3,60	Very Satisfied
14	19,727	3,319	1,216	0,866	3,94	Very Satisfied
15	18,818	3,844	0,915	0,943	3,76	Very Satisfied
16	15,970	3,187	1,498	0,779	3,19	Satisfied
17	18,152	4,604	1,551	0,887	3,63	Very Satisfied
18	17,545	4,016	1,319	0,892	3,51	Very Satisfied
19	17,273	3,547	1,417	0,840	3,45	Satisfied
20	16,848	3,401	1,012	0,912	3,37	Satisfied
21	69,667	9,930	3,244	0,893	2,79	Satisfied

*Mean = $\bar{X}$ of raw scores

N = 33

TABLE 6.20

MSQ GROUP STATISTICS FOR GROUP (BEN + BED + CEN + CED)

Scale	Mean*	Standard Deviation	Standard Error	Hoyt Reli= ability	Average Response	Significance
1	17,426	3,814	0,985	0,933	3,48	Satisfied
2	17,162	3,480	1,241	0,873	3,43	Satisfied
3	18,250	3,937	1,058	0,928	3,65	Very Satisfied
4	13,485	4,746	0,807	0,971	2,70	Satisfied
5	14,897	3,592	1,051	0,914	2,98	Satisfied
6	14,676	3,990	1,146	0,917	2,93	Satisfied
7	12,471	3,712	1,130	0,907	2,49	Slightly Satisfied
8	17,015	3,634	1,039	0,918	3,40	Satisfied
9	18,838	2,981	1,141	0,854	3,77	Very Satisfied
10	18,044	3,112	1,151	0,863	3,61	Very Satisfied
11	19,809	3,682	1,161	0,901	3,96	Very Satisfied
12	15,088	3,939	0,892	0,949	3,02	Satisfied
13	17,471	3,020	1,373	0,793	3,49	Satisfied
14	18,779	3,582	1,301	0,868	3,75	Very Satisfied
15	18,059	3,403	0,874	0,934	3,61	Very Satisfied
16	15,956	3,271	1,256	0,853	3,19	Satisfied
17	17,162	4,895	1,347	0,924	3,43	Satisfied
18	16,588	4,466	1,209	0,927	3,32	Satisfied
19	16,632	3,446	1,262	0,866	3,33	Satisfied
20	17,456	3,826	0,894	0,945	3,49	Satisfied
21	67,632	10,327	3,142	0,907	2,71	Satisfied

*Mean = $\bar{X}$ of raw scores

N = 68

6.4 RESULTS FROM MJDQ MEASUREMENT

Following the statistical rationale and approach mentioned in the previous chapter, the summary statistics, in the tables to follow, supply all the necessary information on the scoring of the MJDQ. Statistics supplied for each scale are the following: the adjusted scale value, standard error, P- and Q-values and unadjusted scale values.

The adjusted scale values are used to plot the profile on the page following each table containing summary statistics. These scale values are based on the mean number of votes for each stimulus or scale and then adjusted with respect to the neutral point. The highest adjusted scale value reported in the present study is +1,63 for group AED on the Ability utilization scale, while lowest value is -0,66 for the same group on the Authority scale.

Each profile is plotted on a scale which ranges from -1,5 through to +2,5 in intervals of 0,5. These graphic profiles give a picture of the reinforcer characteristics of the work environment, be it in a positive or negative sense.

The levels of the reinforcers vary between highly and moderately descriptive. An analysis of the various ORP profiles shows that Ability utilization and Security are the only reinforcers mentioned as highly descriptive characteristics of the job of Teacher: Adult Education.

Reinforcers described as not typical of this occupation, are Compensation (are not paid well in comparison with other workers), Authority (do not tell other people what to do) and Supervision-technical (do not have bosses who train their men well). This links with the MIQ preferences of the subjects, especially with regard to the latter two scales.

Following each profile the descriptive characteristics of the work environment is printed, next to the scale number and name. The following appear to be typical moderately descriptive characteristics of the occupation researched:

People in the job of Teacher: Adult Education:

- plan their work with little supervision (autonomy)
- make use of their own abilities (ability utilization)
- have work where they do things for other people (social service)
- make decisions on their own (responsibility)
- have good working conditions (working conditions)
- have steady employment (security)
- get a feeling of accomplishment (achievement)
- try out their own ideas (creativity)
- have opportunities for advancement (advancement).

A superficial matching of this data and that of the MIQ indicates correspondence between some of the scales. For example, Ability Utilization and Achievement are rated as two highly important needs, whereas the same scales are rated as descriptive (though in a moderate sense) of the work environment.

In order to test the first hypothesis, which states that there are no differences in the ratings of employees and supervisors, t-values were calculated, utilizing the adjusted scale values and standard errors of each subgroup. These t-values are tabulated in tables 6.32 to 6.38. The majority of these values proved to be insignificant. Only 10 or 6,80 percent of the 147 t-values were significant (on either the ,05 or,01 levels).

When the employee and supervisor scale values were correlated (Pearson product moment) the following results were found:

- a correlation of 0,91 was calculated between CEN and AEN

- a correlation of 0,89 was calculated between CED and AED

These findings indicate substantial agreement between employees and supervisors. From the foregoing results it is thus evident that the first null-hypothesis cannot be rejected.

Apart from the similarity in ORP ratings between subgroups within each faculty (engineering and education) analyses show that there are no significant inter-faculty differences in ORP ratings. A correlation of 0,84 was calculated between the adjusted scale values of AEN and AED, while a correlation of 0,90 was calculated between the values of CEN and CED. Again the findings indicate substantial agreement, however, in this case between faculties (or various rater groups) within the same work environment. Due to these findings the second null-hypothesis (4.2), which states that there are no differences in the ORP ratings of various employee- and supervisor rater groups within the same work environment, cannot be rejected.

This profile similarity can be attributed to a number of reasons. One of the variables may be the homogeneity of the sample (or subgroups). Taking tenure (that is years of service in the occupation) into account, as a possible contributor, it is found that 7,4 is the average number of years the raters have been employed in the occupation. Another possible reason may be the high educational level of the subjects, together with their possible objective and critical outlook and handling of matters. All this must have equipped them with sufficient knowledge to rate the job of Teacher: Adult Education.

TABLE 6.21

SAMPLE CHARACTERISTICS FOR GROUP AEN (N=10)

	N	Percentage	Cumulative Percentage	Mean
AGE:				
26-35 years	1	10,0	10,0	
36-45 years	6	60,0	70,0	
46-55 years	2	20,0	90,0	45,50
56-65 years	1	10,0	100,0	
EDUCATION:				
17 years	1	10,0	10,0	
19 years	9	90,0	100,0	18,80
SEX:				
Male	10	100,0	100,0	
Female	0	0	0	
TENURE (years in occupation)				
Less than 2 years	2	20,0	20,0	
2-5 years	5	50,0	70,0	5,35
6-10 years	2	20,0	90,0	
21-30 years	1	10,0	100,0	
YEARS AS SUPERVISOR:				7,13

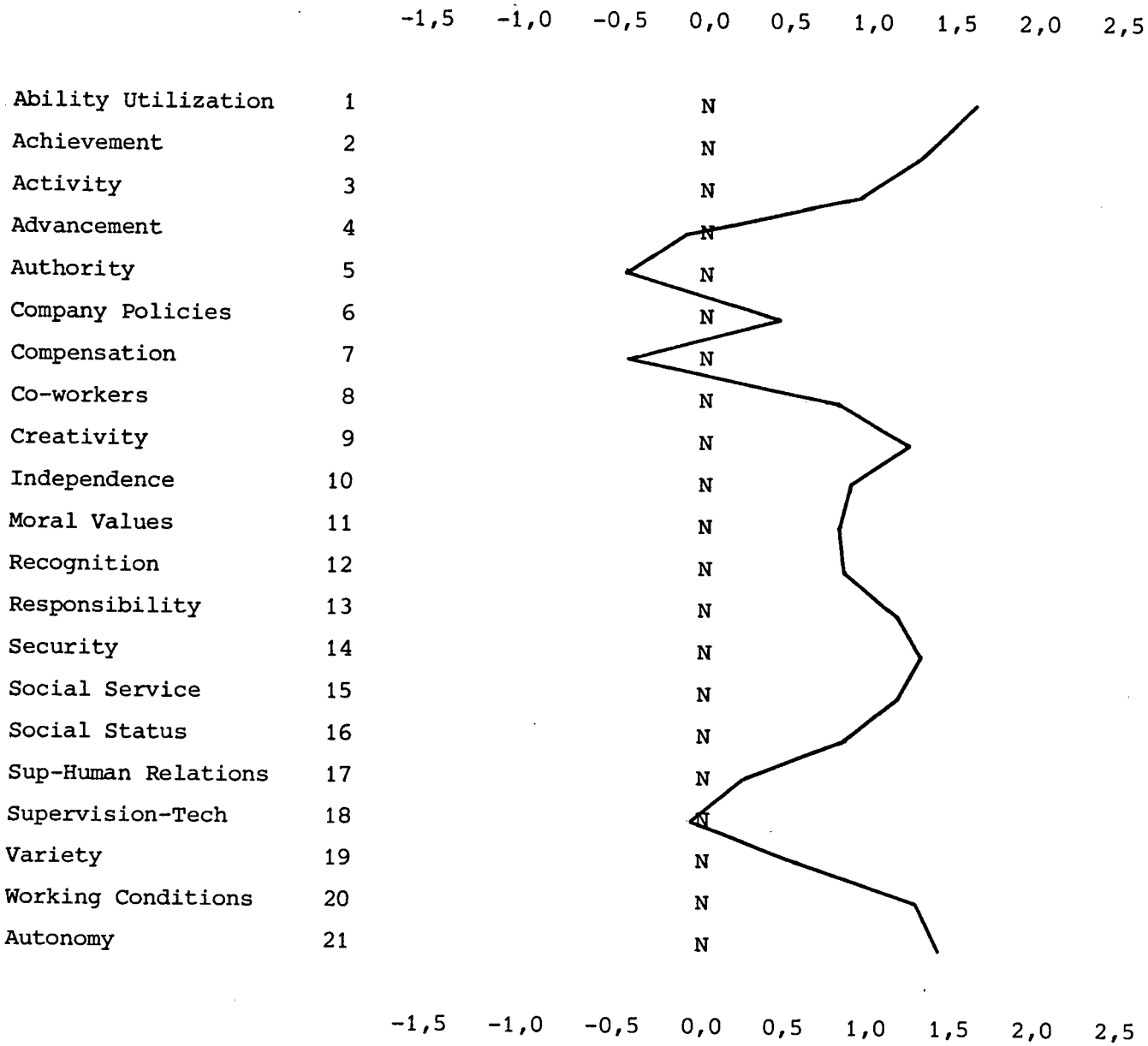
TABLE 6.22

SUMMARY STATISTICS FOR GROUP AEN

		Adjusted value	1SE	+1SE	P	Q	Unadjusted value
1.	Ability Utilization	1,58	1,44	1,73	0,00	5,77	,8
2.	Achievement	1,32	1,17	1,49	0,00	4,13	,6
3.	Activity	,91	,75	1,08	,10	2,46	,2
4.	Advancement	- ,06	- ,24	,10	,80	,16	- ,7
5.	Authority	- ,51	- ,78	- ,32	,90	1,24	-1,4
6.	Company Policies	,34	,22	,46	,20	1,08	- ,3
7.	Compensation	- ,51	- ,72	- ,35	,90	1,41	-1,2
8.	Co-workers	,76	,66	,87	,10	2,72	,0
9.	Creativity	1,27	1,13	1,42	0,00	4,12	,5
10.	Independence	,80	,60	1,00	,30	1,79	,0
11.	Moral Values	,74	,54	,94	0,00	1,67	,0
12.	Recognition	,75	,56	,95	,10	1,75	,0
13.	Responsibility	1,19	1,10	1,29	0,00	4,84	,4
14.	Security	1,28	1,09	1,50	0,00	3,29	,5
15.	Social Service	1,19	,96	1,45	,10	2,58	,4
16.	Social Status	,79	,58	1,00	,10	1,73	,0
17.	Sup-Human Relations	,24	,11	,37	,40	,75	- ,4
18.	Supervision Tech.	- ,03	- ,20	,12	,60	,80	- ,7
19.	Variety	,58	,42	,74	,10	1,51	- ,1
20.	Working Conditions	1,30	1,14	1,46	0,00	3,94	,5
21.	Autonomy	1,45	1,32	1,60	0,00	5,10	,7
	Adjusted Neutral Point	0,000	- ,78	,74			
	Unadjusted Neutral Point	- ,718	- ,796	- ,644			

PROFILE 6.9

ORP FOR GROUP AEN



N = 10 Supervisors

DESCRIPTIVE CHARACTERISTICS OF THE JOB OF AEN GROUP ORP AS RATED BY 10 SUPERVISORS

HIGHLY DESCRIPTIVE CHARACTERISTICS	SCALE	NAME
Workers on the job of AEN Group ORP		
Make use of their individual abilities	1	Ability Utilization

MODERATELY DESCRIPTIVE CHARACTERISTICS	SCALE	NAME
Workers on the job of AEN Group ORP		
Plan their work with little supervision	21	Autonomy
Get a feeling of accomplishment	2	Achievement
Have good working conditions	20	Working Conditions
Have steady employment	14	Security
Try out their own ideas	9	Creativity
Make decisions on their own	13	Responsibility
Have work where they do things for other people	15	Social Service

Do not tell other workers what to do	5	Authority
Are not paid well in comparison with other workers	7	Compensation
Do not have opportunities for advancement	4	Advancement

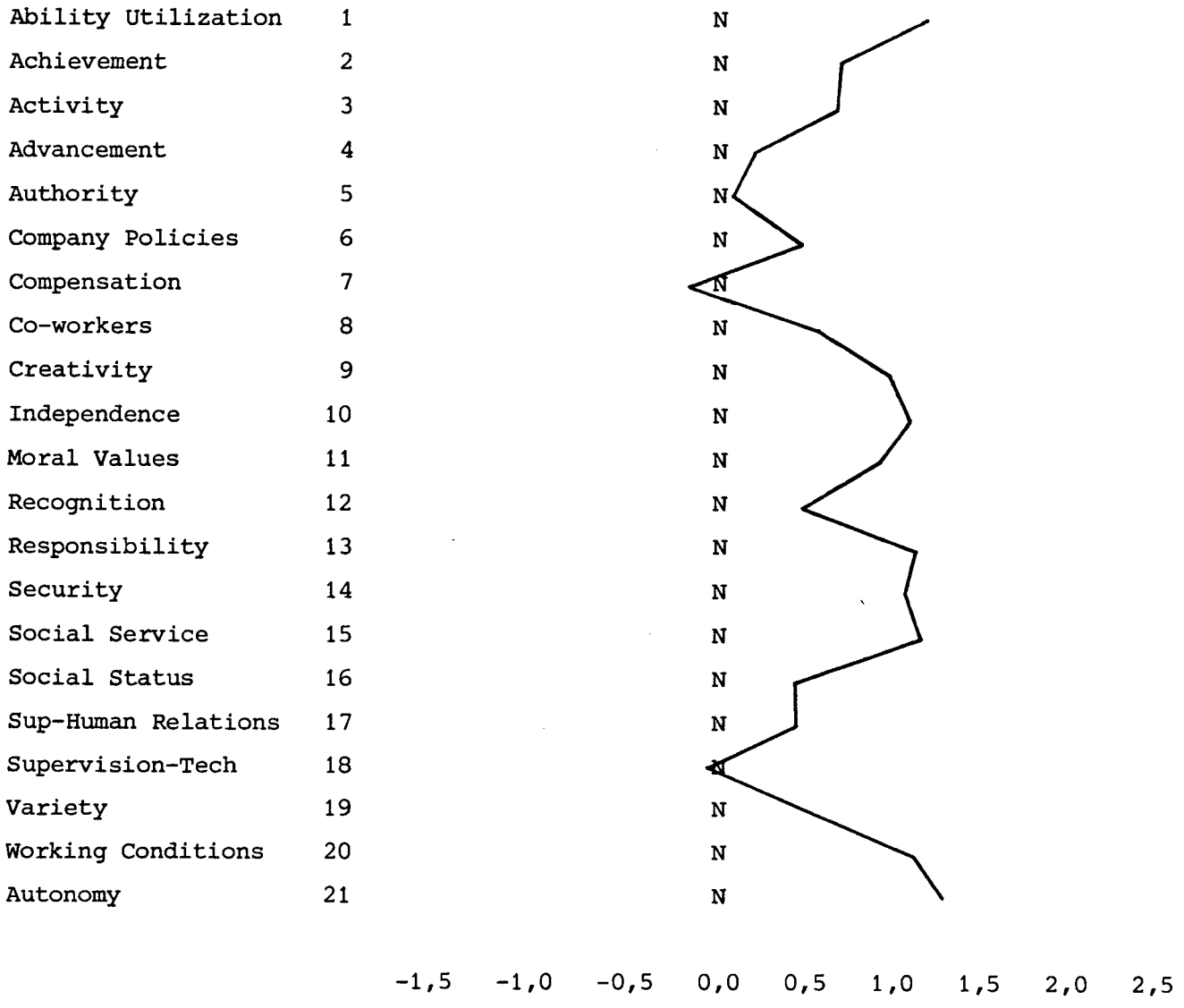
TABLE 6.23

SUMMARY STATISTICS FOR GROUP CEN

		Adjusted value	-1SE	+SE	P	Q	Unadjusted value
1.	Ability Utilization	1,20	1,06	1,35	0,00	2,65	,5
2.	Achievement	,72	,58	,86	,21	1,46	,0
3.	Activity	,69	,50	,88	,36	1,18	,0
4.	Advancement	,24	,03	,44	,57	,39	- ,4
5.	Authority	,07	- ,14	,25	,64	,11	- ,5
6.	Company Policies	,45	,27	,62	,29	,79	- ,2
7.	Compensation	- ,28	- ,54	- ,07	,93	,43	- ,9
8.	Co-workers	,55	,42	,67	,14	1,18	- ,1
9.	Creativity	,96	,80	1,13	,07	1,86	,3
10.	Independence	1,10	,96	1,25	0,00	2,35	,4
11.	Moral Values	,82	,69	,96	0,00	1,77	,1
12.	Recognition	,46	,30	,62	,43	,87	- ,1
13.	Responsibility	1,13	,98	1,28	,07	2,40	,4
14.	Security	1,06	,90	1,23	0,00	2,11	,4
15.	Social Service	1,18	1,00	1,39	0,00	2,18	,5
16.	Social Status	,41	,23	,59	,29	,72	- ,2
17.	Sup-Human Relations	,41	,31	,50	,29	,97	- ,2
18.	Supervision-Tech.	- ,01	- ,19	,15	,50	,02	- ,6
19.	Variety	,51	,34	,66	,43	,94	- ,1
20.	Working Conditions	1,12	,98	1,26	0,00	2,47	- ,4
21.	Autonomy	1,30	1,18	1,43	0,00	3,12	,6
	Adjusted Neutral Point	0,000	- ,135	,124			
	Unadjusted Neutral Point	- ,644	- ,779	- ,520			

PROFILE 6.10

ORP FOR GROUP CEN



N = 14 Supervisors

DESCRIPTIVE CHARACTERISTICS OF THE JOB OF CEN GROUP ORP AS RATED BY 14 SUPERVISORS

HIGHLY DESCRIPTIVE CHARACTERISTICS	SCALE	NAME
Workers on the job of CEN Group ORP		
NONE		
MODERATELY DESCRIPTIVE CHARACTERISTICS		
Workers on the job of CEN Group ORP		
Plan their work with little supervision	21	Autonomy
Make use of their individual abilities	1	Ability Utilization
Have work where they do things for other people	15	Social Service
Make decisions on their own	13	Responsibility
Have good working conditions	20	Working Conditions
Do their work alone	10	Independence
Have steady employment	14	Security
Are not paid well in comparison with other workers	7	Compensation
Do not tell other workers what to do	5	Authority

TABLE 6.24

SAMPLE CHARACTERISTICS FOR GROUP AED (N=7)

	N	Percentage	Cumulative Percentage	Mean
AGE:				
36-45 years	2	28,6	28,6	
46-55 years	3	42,9	71,4	51,57
56-65 years	2	28,6	100,0	
EDUCATION:				
19 years	6	85,7	85,7	19,4
20 years	1	14,3	100,0	
SEX:				
Male	7	100,0	100,C	
Female	0	0	0	
TENURE (years in occupation)				
2-5 years	2	28,6	28,6	
6-10 years	3	42,9	71,4	
11-20 years	1	14,3	85,7	11,92
31 or more	1	14,3	100,0	
YEARS AS SUPERVISOR				11,31

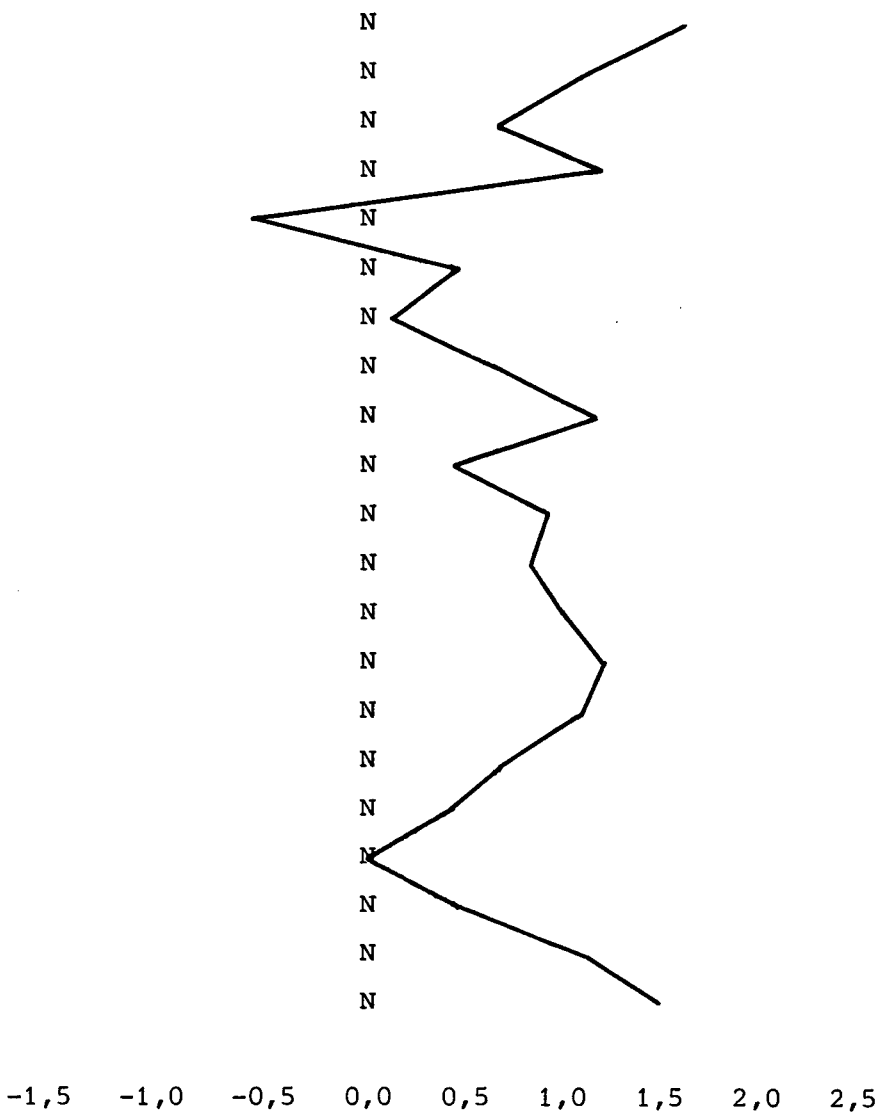
TABLE 6.25

SUMMARY STATISTICS FOR GROUP AED

		Adjusted value	-1SE	+1SE	P	Q	Unadjusted value
1.	Ability Utilization	1,63	1,45	1,86	0,00	4,76	- ,9
2.	Achievement	1,13	,92	1,36	0,00	2,65	,3
3.	Activity	,65	,30	,99	,43	1,02	- ,0
4.	Advancement	1,18	,96	1,43	0,00	2,70	,4
5.	Authority	- ,66	- ,80	- ,54	,71	1,93	-1,4
6.	Company Policies	,40	,25	,54	,14	1,09	- ,3
7.	Compensation	,10	- ,14	,31	,57	,22	- ,6
8.	Co-workers	,65	,48	,81	,14	1,68	- ,0
9.	Creativity	1,18	1,04	1,33	0,00	3,64	,4
10.	Independence	,43	,20	,64	,43	,92	- ,3
11.	Moral Values	,84	,61	1,08	0,00	1,77	,1
12.	Recognition	,73	,48	,97	,14	1,47	- ,0
13.	Responsibility	1,01	,81	1,22	,14	2,40	,2
14.	Security	1,24	1,02	1,48	0,00	2,94	,5
15.	Social Service	1,11	,81	1,45	,29	2,02	,3
16.	Social Status	,71	,57	,85	0,00	2,08	- ,0
17.	Sup-Human Relations	,43	,14	,70	,43	,79	- ,3
18.	Supervision-Tech.	0,00	- ,25	,21	,71	0,00	- ,7
19.	Variety	,48	,32	,64	,29	1,27	- ,2
20.	Working Conditions	1,20	,95	1,49	,14	2,53	,4
21.	Autonomy	1,50	1,34	1,67	0,00	4,64	,7
	Adjusted Neutral Point	0,000	- ,137	,124			
	Unadjusted Neutral Point	- ,737	- ,874	- ,613			

PROFILE 6.11

ORP FOR GROUP AED



N = 7 Supervisors

DESCRIPTIVE CHARACTERISTICS OF THE JOB OF AED GROUP ORP AS RATED BY 17 SUPERVISORS

HIGHLY DESCRIPTIVE CHARACTERISTICS	SCALE	NAME
Workers on the job of AED Group ORP		
Make use of their individual abilities	1	Ability Utilization

MODERATELY DESCRIPTIVE CHARACTERISTICS	SCALE	NAME
Workers on the job of AED Group ORP		
Plan their work with little supervision	21	Autonomy
Have steady employment	14	Security
Have good working conditions	20	Working Conditions
Try out their own ideas	9	Creativity
Have opportunities for advancement	4	Advancement
Get a feeling of accomplishment	2	Achievement
Make decisions on their own	13	Responsibility
Do not tell other workers what to do	5	Authority
Do not have bosses who train the workers well	18	Supervision-Tech.

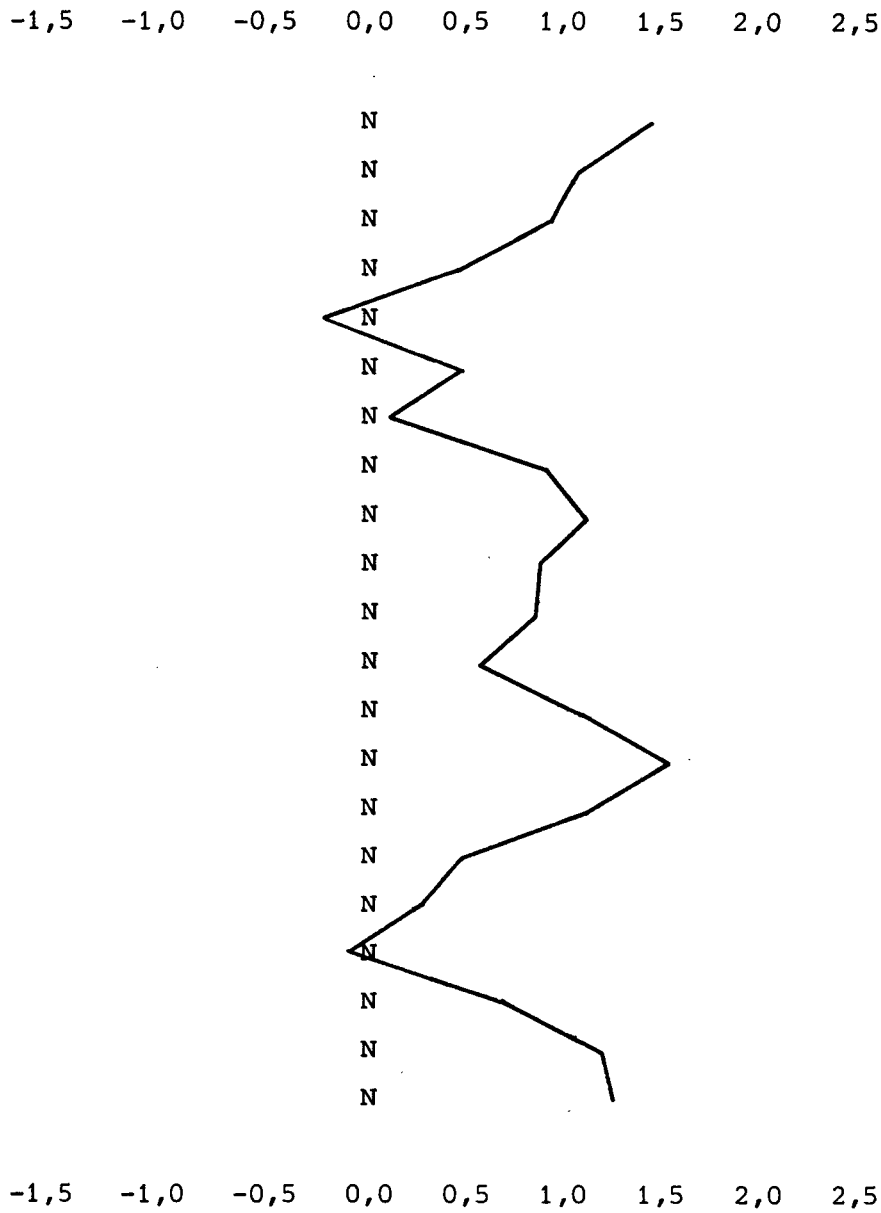
TABLE 6.26

SUMMARY STATISTICS FOR GROUP CED

		Adjusted value	-1SE	+1SE	P	Q	Unadjusted value
1.	Ability Utilization	1,45	1,32	1,59	0,00	3,61	,7
2.	Achievement	1,09	,93	1,27	,19	2,14	,3
3.	Activity	,90	,75	1,05	,31	1,86	,1
4.	Advancement	,44	,28	,59	,31	,85	- ,2
5.	Authority	- ,32	- ,46	- ,20	,88	,69	-1,0
6.	Company Policies	,48	,35	,60	,13	1,07	- ,2
7.	Compensation	,12	- ,01	,25	,50	,27	- ,6
8.	Co-workers	,86	,73	,99	0,00	1,91	,1
9.	Creativity	1,12	1,01	1,23	0,00	2,84	,3
10.	Independence	,78	,60	,96	,25	1,40	,0
11.	Moral Values	,76	,60	,92	0,00	1,45	,0
12.	Recognition	,57	,43	,71	,31	1,20	- ,1
13.	Responsbility	1,09	,98	1,21	,06	2,79	,3
14.	Security	1,52	1,37	1,68	0,00	3,61	,7
15.	Social Service	1,13	,99	1,28	,06	2,52	,4
16.	Social Status	,45	,29	,61	,31	,85	- ,2
17.	Sup-Human Relations	,32	,13	,49	,19	,56	- ,4
18.	Supervision-Tech.	- ,10	- ,24	,03	,63	,20	- ,8
19.	Variety	,68	,53	,82	,38	1,39	- ,0
20.	Working Conditions	1,25	1,12	1,39	,06	2,95	,5
21.	Autonomy	1,30	1,16	1,46	,06	2,93	,5
	Adjusted Neutral Point	0,000	- ,109	,101			
	Unadjusted Neutral Point	- ,729	- ,838	- ,528			

PROFILE 6.12

ORP FOR GROUP CED



N = 16 Supervisors

DESCRIPTIVE CHARACTERISTICS OF THE JOB OF CED GROUP ORP AS RATED BY 16 SUPERVISORS

HIGHLY DESCRIPTIVE CHARACTERISTICS	SCALE	NAME
Workers on the job of CED Group ORP		
Have steady employment	14	Security
MODERATELY DESCRIPTIVE CHARACTERISTICS		
Workers on the job of CED Group ORP		
Make use of their individual abilities	1	Ability Utilization
Plan their work with little supervision	21	Autonomy
Have good working conditions	20	Working Conditions
Have work where they do things for other people	15	Social Service
Try out their own ideas	9	Creativity
Get a feeling of accomplishment	2	Achievement
Make decisions on their own	13	Responsibility
Do not tell other workers what to do	5	Authority
Do not have bosses who train the workers well	18	Supervision-Tech.

TABLE 6.27

COMBINED SAMPLE CHARACTERISTICS FOR GROUP (AEN+AED) (N=17)

	N	Percentage	Cumulative Percentage	Mean
AGE:				
26-35 years	1	5,88	4,88	
36-45 years	8	47,06	52,94	
46-55 years	5	29,41	82,35	48,00
56-55 years	3	17,65	100,00	
EDUCATION:				
17 years	1	5,88	5,88	
18 years	0	0,00	5,88	18,94
19 years	15	88,24	94,12	
20 years	1	5,88	100,00	
SEX:				
Male	17	100	100	
Female	0	0	0	
TENURE (years in occupation)				
Less than 2 years	2	11,76	11,76	
2-5 years	7	41,18	52,94	
6-10 years	5	29,41	82,35	8,05
11-20 years	1	5,88	88,23	
21-30	1	5,88	94,11	
31 or more	1	5,88	100,00	
YEARS AS SUPERVISOR				8,85

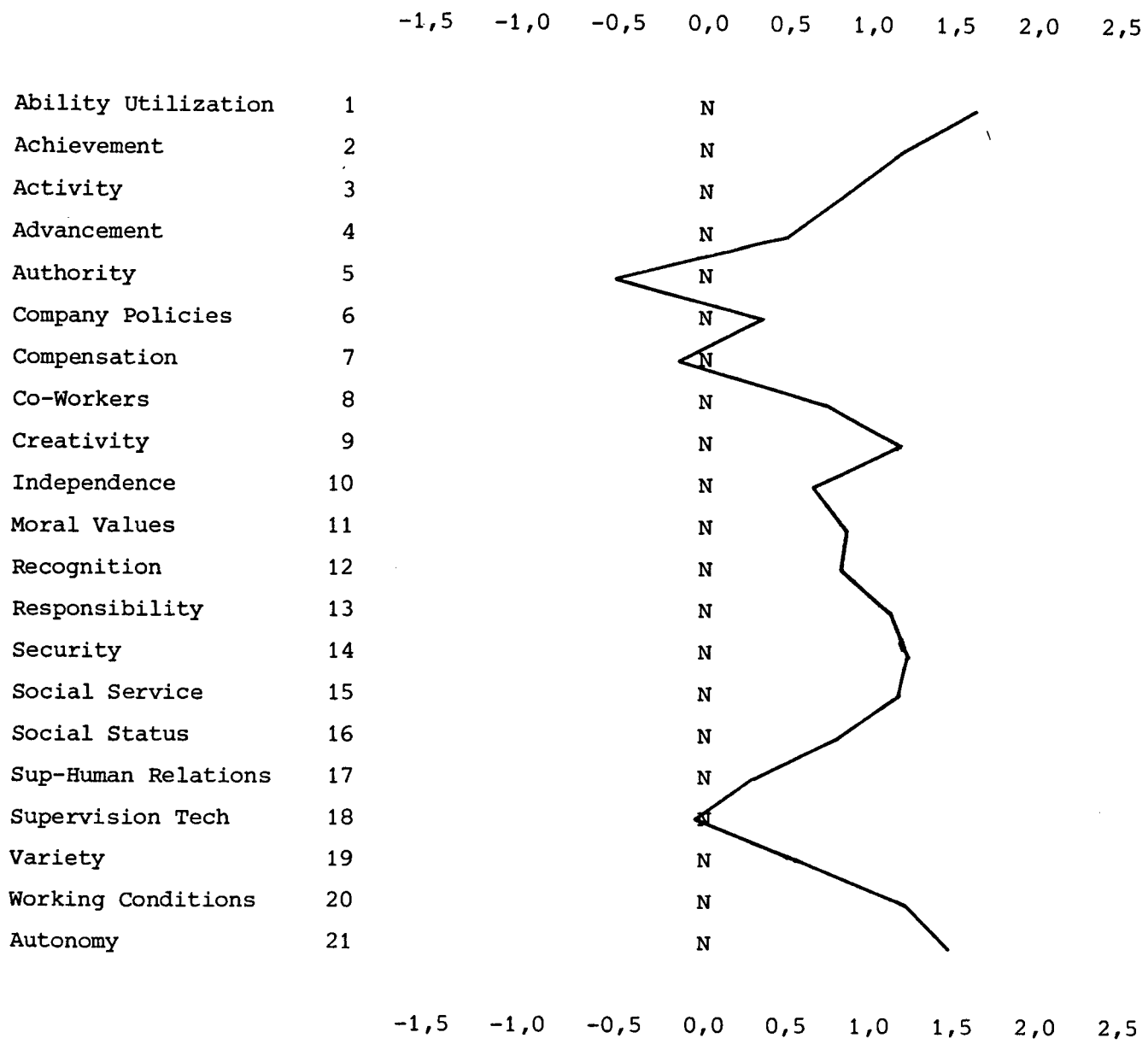
TABLE 6.28

SUMMARY STATISTICS FOR GROUPS AEN + AED

		Adjusted value	-1SE	+1SE	P	Q	Unadjusted value
1.	Ability Utilization	1,60	1,49	1,72	0,00	5,44	,8
2.	Achievement	1,24	1,12	1,37	0,00	3,45	,5
3.	Activity	,80	,64	,97	,24	1,67	,0
4.	Advancement	,49	,30	,67	,47	,91	- ,2
5.	Authority	- ,57	- ,73	- ,44	,82	1,44	-1,3
6.	Company Policies	,37	,27	,46	,18	1,12	- ,3
7.	Compensation	- ,22	- ,39	- ,07	,76	,50	- ,9
8.	Co-workers	,72	,63	,81	,12	2,25	- ,0
9.	Creativity	1,23	1,13	1,34	0,00	4,00	,5
10.	Independence	,65	,50	,80	,35	1,42	- ,0
11.	Moral Values	,78	,64	,93	0,00	1,76	,0
12.	Recognition	,74	,60	,89	,12	1,68	,0
13.	Responsibility	1,11	1,01	1,22	,06	3,45	,3
14.	Security	1,26	1,12	1,42	0,00	3,22	,5
15.	Social Service	1,16	,98	1,35	,18	2,39	,4
16.	Social Status	,76	,62	,89	,06	1,84	,0
17.	Sup-Human Relations	,32	,18	,45	,41	,76	- ,4
18.	Supervision-Tech.	- ,02	- ,15	,10	,65	,04	- ,7
19.	Variety	,54	,43	,65	,18	1,44	- ,1
20.	Working Conditions	1,26	1,12	1,40	,06	3,28	,5
21.	Autonomy	1,47	1,37	1,58	0,00	5,03	,7
	Adjusted Neutral Point	0,000	- ,069	,066			
	Unadjusted Neutral Point	- ,726	- ,795	- ,660			

PROFILE 6.13

ORP FOR GROUPS AEN + AED



N = 17 Supervisors

DESCRIPTIVE CHARACTERISTICS OF THE JOB OF AEN + AED GROUP ORP AS RATED BY 17 SUPERVISORS

HIGHLY DESCRIPTIVE CHARACTERISTICS	SCALE	NAME
Workers on the job of AEN + AED Group ORP		
Make use of their individual abilities	1	Ability Utilization

MODERATELY DESCRIPTIVE CHARACTERISTICS	SCALE	NAME
Workers on the job of AEN + AED Group ORP		
Plan their work with little supervision	21	Autonomy
Have steady employment	14	Security
Have good working conditions	20	Working Conditions
Get a feeling of accomplishment	2	Achievement
Try out their own ideas	9	Creativity
Have work where they do things for other people	15	Social Service
Make decisions on their own	13	Responsibility
Do not tell other workers what to do	5	Authority
Are not paid well in comparison with other workers	7	Compensation
Do not have bosses who train the workers well	18	Supervision-Tech.

TABLE 6.29

COMBINED SAMPLE CHARACTERISTICS FOR GROUP (CEN+CED) (N=31)

	N	Percentage	Cumulative Percentage	Mean
AGE:				
18-25 years	1	3,23	3,23	
26,35 years	14	45,16	48,39	
36-45 years	9	29,03	77,42	38,35
46-55 years	4	12,90	90,32	
56-65 years	3	9,68	100,00	
EDUCATION:				
17 years	8	25,81	25,81	
18 years	3	9,68	35,49	18,71
19 years	10	32,26	67,75	
20 years	10	32,26	100,00	
SEX:				
Male	24	77,42		
Female	7	22,58		
TENURE (years in occupation)				
Less than 2 years	7	22,58	22,58	
2-5 years	15	48,39	70,97	5,69
6-10 years	5	16,13	87,10	
11-20 years	3	9,68	96,78	
21-30 years	1	3,23	100,00	

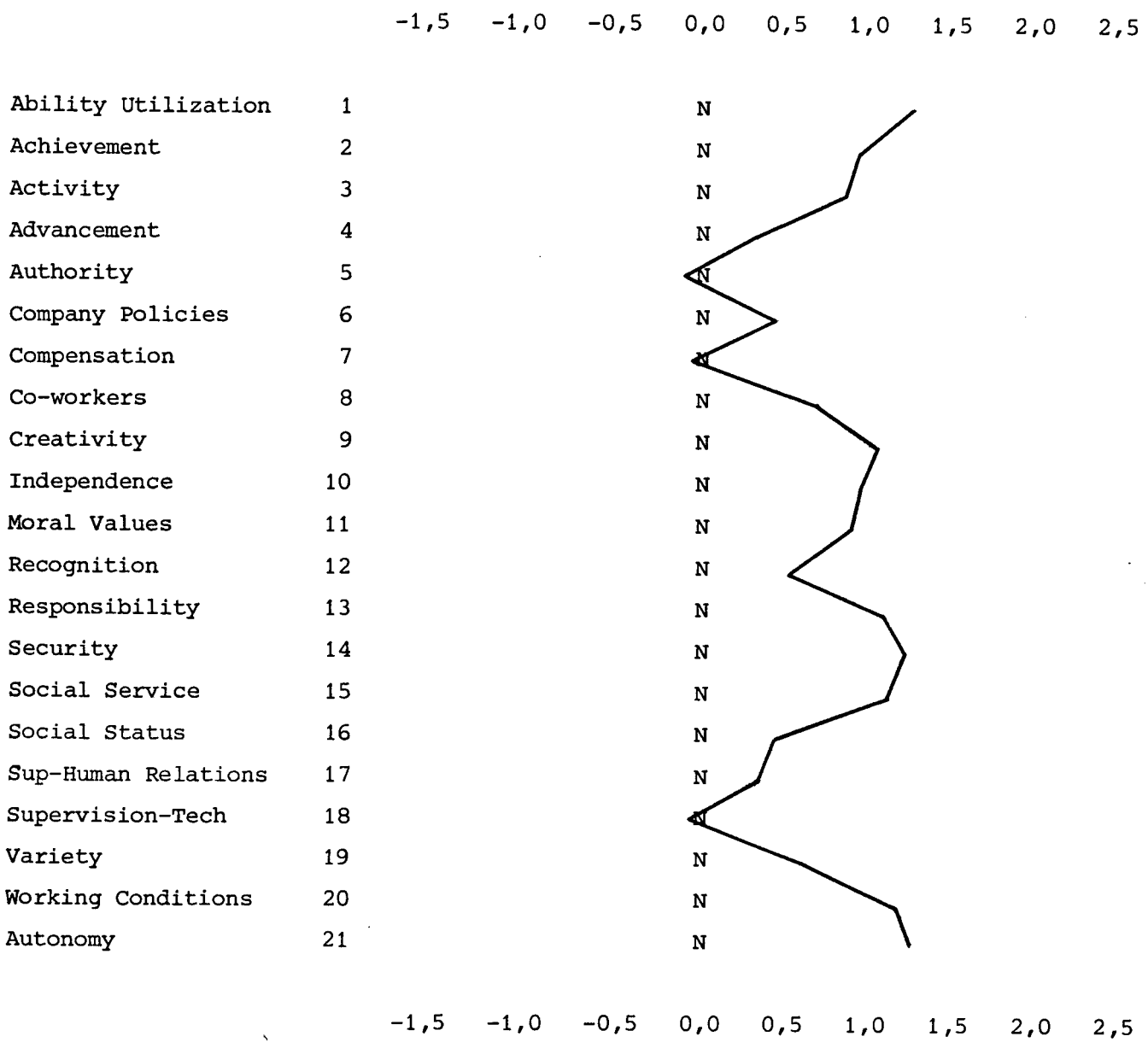
TABLE 6.30

SUMMARY STATISTICS FOR GROUPS CEN + CED

		Adjusted value	-1SE	+1Se	P	Q	Unadjusted value
1.	Ability Utilization	1,33	1,24	1,43	0,00	3,15	,6
2.	Achievement	,92	,80	1,03	,20	1,82	,2
3.	Activity	,80	,69	,92	,33	1,52	,1
4.	Advancement	,35	,22	,47	,43	,62	- ,3
5.	Authority	- ,12	- ,25	,00	,77	,21	- ,8
6.	Company Policies	,46	,36	,56	,20	,92	- ,2
7.	Compensation	- ,05	- ,18	,06	,70	,10	- ,7
8.	Co-workers	,71	,62	,80	,07	1,56	,0
9.	Creativity	1,04	,95	1,14	,03	2,32	,3
10.	Independence	,92	,80	1,04	,13	1,76	,2
11.	Moral Values	,79	,68	,89	0,00	1,60	,1
12.	Recognition	,52	,42	,62	,37	1,05	- ,1
13.	Responsibility	1,11	1,02	1,20	,07	2,61	,4
14.	Security	1,29	1,18	1,41	0,00	2,78	,6
15.	Social Service	1,15	1,04	1,27	,03	2,36	,4
16.	Social Status	,44	,32	,55	,30	,80	- ,2
17.	Sup-Human Relations	,36	,26	,46	,23	,71	- ,3
18.	Supervision-Tech.	- ,05	- ,16	,05	,57	,11	- ,7
19.	Variety	,60	,49	,70	,40	1,18	- ,0
20.	Working Conditions	1,19	1,09	1,28	,03	2,75	,5
21.	Autonomy	1,30	1,20	1,40	,03	3,03	,6
	Adjusted Neutral Point	0,000	- ,084	,079			
	Unadjusted Neutral Point	- ,689	- ,773	-,610			

PROFILE 6.14

ORP FOR GROUPS CEN + CED



N = 30 Supervisors

DESCRIPTIVE CHARACTERISTICS OF THE JOB OF CEN + CED GROUP ORP AS RATED BY 30 SUPERVISORS

HIGHLY DESCRIPTIVE CHARACTERISTICS	SCALE	NAME
Workers on the job of CEN + CED Group ORP		
NONE	NONE	

MODERATELY DESCRIPTIVE CHARACTERISTICS	SCALE	NAME
Workers on the job of CEN + CED Group ORP		
Make use of their individual abilities	1	Ability Utilization
Plan their work with little supervision	21	Autonomy
Have steady employment	14	Security
Have good working conditions	20	Working Conditions
Have work where they do things for other people	15	Social Service
Make decisions on their own	13	Responsibility
Try out their own ideas	9	Creativity
Do not tell other workers what to do	5	Authority
Are not paid well in comparison with other workers	7	Compensation

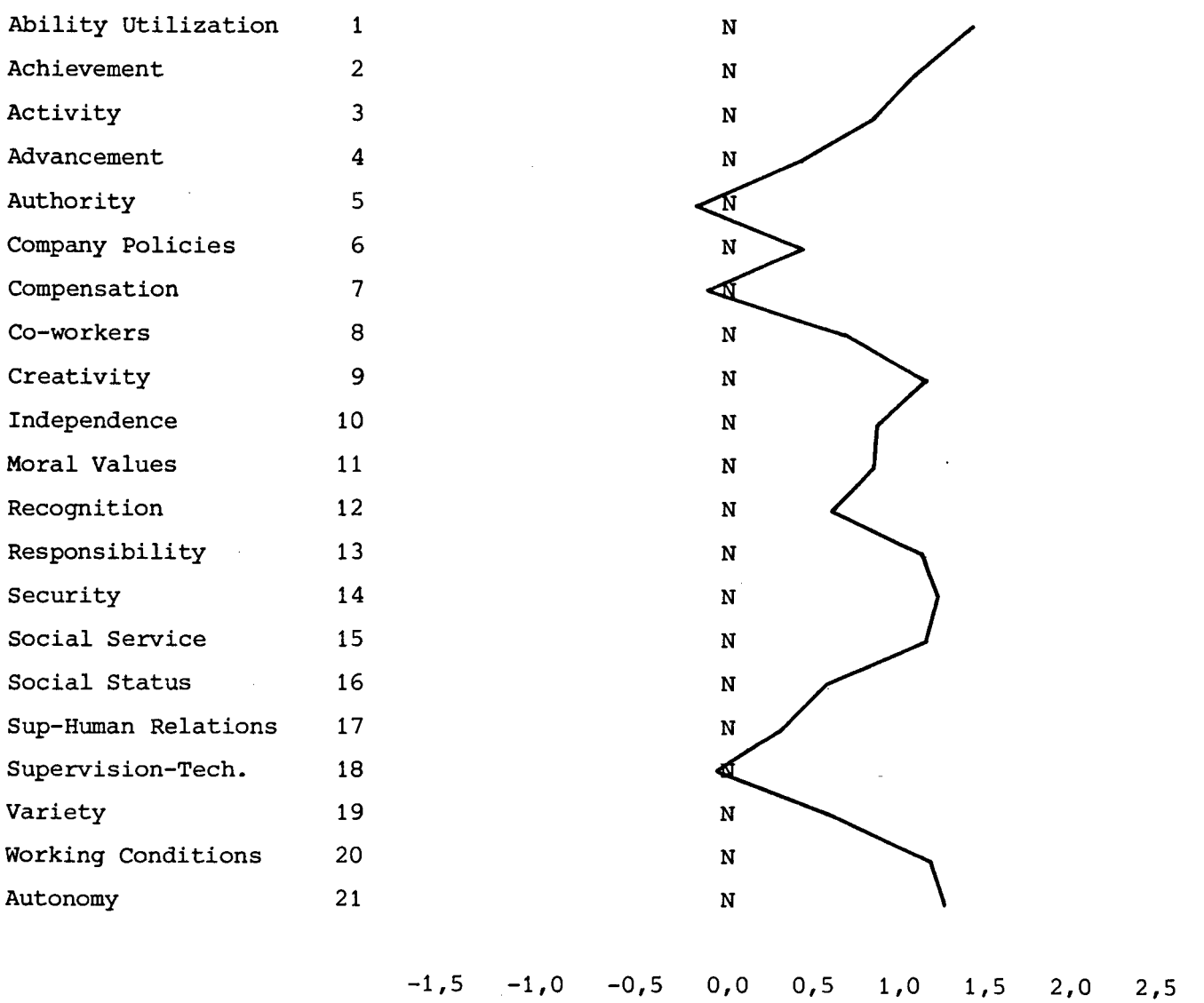
TABLE 6.31

SUMMARY STATISTICS FOR GROUPS AED + CED + AEN + CEN

		Adjusted value	-1SE	+1SE	P	Q	Unadjusted value
1.	Ability Utilization	1,42	1,35	1,50	0,00	3,70	,72
2.	Achievement	1,03	,94	1,12	,13	2,23	,33
3.	Activity	,80	,71	,90	,30	1,57	,10
4.	Advancement	,40	,29	,50	,45	,72	- ,30
5.	Authority	- ,25	- ,36	- ,16	,79	,48	- ,96
6.	Company Policies	,43	,35	,50	,19	,96	- ,27
7.	Compensation	- ,11	- ,21	- ,02	,72	,21	- ,81
8.	Co-workers	,71	,65	,78	,09	1,74	,01
9.	Creativity	1,11	1,04	1,18	,02	2,75	,41
10.	Independence	,82	,73	,92	,21	1,62	,12
11.	Moral Values	,79	,70	,87	0,00	1,65	,08
12.	Recognition	,60	,52	,68	,28	1,25	- ,10
13.	Responsibility	1,11	1,04	1,18	,06	2,85	,41
14.	Security	1,28	1,20	1,37	0,00	2,92	,58
15.	Social Service	1,15	1,06	1,26	,09	2,37	,45
16.	Social Status	,55	,46	,64	,21	1,10	- ,15
17.	Sup-Human Relations	,35	,26	,43	,30	,73	- ,36
18.	Supervision-Tech.	- ,04	- ,12	,04	,60	,09	- ,74
19.	Variety	,58	,50	,65	,32	1,25	- ,13
20.	Working conditions	1,21	1,14	1,29	,04	2,93	,51
21.	Autonomy	1,36	1,29	1,43	,02	3,54	,66
	Adjusted Neutral Point	0,000	- ,058	,056			
	Unadjusted Neutral Point	- ,702	- ,760	- ,646			

PROFILE 6.15

ORP FOR GROUPS AED + CED + AEN + CEN



N = 47 Supervisors

DESCRIPTIVE CHARACTERISTICS OF THE JOB OF COMBINED (AED, CED, AEN, CEN) GROUP ORP AS RATED BY 47 SUPERVISORS

HIGHLY DESCRIPTIVE CHARACTERISTICS	SCALE	NAME
Workers on the job of combined (AED, CED, AEN, CEN) group or	NONE	
NONE		

MODERATELY DESCRIPTIVE CHARACTERISTICS	SCALE	NAME
Workers on the job of Combined (AED, CED, AEN, CEN) group ORP		
Make use of their individual abilities	1	Ability Utilization
Plan their work with little supervision	21	Autonomy
Have steady employment	14	Security
Have good working conditions	20	Working Conditions
Have work where they do things for other people	15	Social Services
Make decisions on their own	13	Responsibility
Try out their own ideas	9	Creativity
Get a feeling of accomplishment	2	Achievement
Do not tell other workers what to do	5	Authority
Are not paid well in comparison with other workers	7	Compensation

TABLE 6.32

GROUP DIFFERENCES IN ORP RATINGS BETWEEN GROUPS AEN AND CEN

Scale number	Standard Error (AEN)	Standard Error (CEN)	t-value
1	,14	,14	1,92
2	,15	,14	2,92**
3	,17	,19	0,86
4	,18	,21	1,08
5	,27	,21	1,70
6	,12	,18	0,51
7	,21	,26	-0,69
8	,10	,13	1,28
9	,14	,16	1,46
10	,20	,14	1,23
11	,20	,13	0,34
12	,19	,16	1,17
13	,15	,09	0,34
14	,19	,16	0,89
15	,23	,18	0,03
16	,21	,18	1,37
17	,13	,10	1,04
18	,17	,18	-0,08
19	,16	,17	0,30
20	,16	,14	0,85
21	,13	,12	0,85

$df = (n_1+n_2)-2$

* = t-value significant at ,05 level

** = t-value significant at ,01 level

TABLE 6.33

GROUP DIFFERENCES IN ORP RATINGS BETWEEN GROUPS AEN AND AED

Scale number	Standard Error (AEN)	Standard Error (AED)	t-value
1	,14	,17	0,23
2	,15	,21	0,74
3	,17	,35	0,67
4	,18	,22	4,36**
5	,27	,14	-0,49
6	,12	,15	0,31
7	,21	,24	1,91
8	,10	,17	0,56
9	,14	,14	0,45
10	,20	,23	1,21
11	,20	,23	0,33
12	,19	,25	0,06
13	,15	,20	0,72
14	,19	,22	0,14
15	,23	,30	0,21
16	,21	,14	0,32
17	,13	,29	0,60
18	,17	,25	-0,10
19	,16	,16	0,44
20	,16	,25	0,34
21	,13	,16	0,24

df = $(n_1+n_2)-2$

* = t-value significant at ,05 level

** = t-value significant at ,01 level

TABLE 6.34

GROUP DIFFERENCES IN ORP RATINGS BETWEEN GROUPS AEN AND CED

Scale number	Standard Error (AEN)	Standard Error (CED)	t-value
1	,14	,13	0,68
2	,15	,16	1,05
3	,17	,15	0,04
4	,18	,16	2,08*
5	,27	,14	-0,62
6	,12	,13	0,79
7	,21	,13	2,55*
8	,10	,13	0,61
9	,14	,11	0,84
10	,20	,18	0,07
11	,20	,16	0,08
12	,19	,15	0,76
13	,15	,11	0,54
14	,19	,15	0,99
15	,23	,14	0,22
16	,21	,16	1,29
17	,13	,19	0,35
18	,17	,14	-0,32
19	,16	,15	0,46
20	,16	,13	0,24
21	,13	,14	0,79

df = $(n_1+n_2)-2$

* = t-value significant at ,05 level

** = t-value significant at ,01 level

TABLE 6.35

GROUP DIFFERENCES IN ORP RATINGS BETWEEN GROUPS AED AND CED

Scale number	Standard Error (AED)	Standard Error (CED)	t-value
1	,17	,13	0,84
2	,21	,16	0,15
3	,35	,15	0,66
4	,22	,16	2,72*
5	,14	,14	-1,72
6	,15	,13	0,40
7	,14	,13	0,07
8	,17	,13	0,98
9	,14	,11	0,34
10	,23	,18	1,20
11	,23	,16	0,29
12	,25	,14	0,56
13	,20	,11	0,35
14	,22	,15	1,05
15	,30	,14	0,06
16	,14	,16	1,22
17	,29	,19	0,32
18	,25	,14	0,35
19	,16	,15	0,91
20	,25	,13	0,18
21	,16	,14	0,94

$df = (n_1+n_2)-2$

* = t-value significant at ,05 level

** = t-value significant at ,01 level

TABLE 6.36

GROUP DIFFERENCES IN ORP RATINGS BETWEEN GROUPS AED AND CEN

Scale number	Standard Error (AED)	Standard Error (CEN)	t-value
1	,17	,14	1,95
2	,21	,14	1,62
3	,35	,19	0,10
4	,22	,21	3,09**
5	,14	,21	2,89**
6	,15	,18	0,21
7	,24	,26	1,07
8	,17	,13	0,47
9	,14	,16	1,03
10	,23	,14	2,49*
11	,23	,13	0,08
12	,25	,16	0,91
13	,20	,09	0,55
14	,22	,16	0,66
15	,30	,18	0,20
16	,14	,18	1,32
17	,29	,10	0,07
18	,25	,18	-0,03
19	,16	,17	0,13
20	,25	,14	0,28
21	,16	,12	1,00

df = $(n_1+n_2)-2$

* = t-value significant at ,05 level

** = t-value significant at ,01 level

TABLE 6.37

GROUP DIFFERENCES IN ORP RATINGS BETWEEN GROUPS CED AND CEN

Scale number	Standard Error (CED)	Standard Error (CEN)	t-value
1	,13	,14	1,31
2	,16	,14	1,74
3	,15	,19	0,87
4	,16	,21	0,76
5	,14	,21	1,55
6	,13	,18	0,14
7	,13	,26	1,38
8	,13	,13	1,69
9	,11	,16	0,82
10	,18	,14	1,40
11	,16	,13	0,29
12	,14	,16	0,52
13	,11	,15	0,22
14	,15	,16	2,10*
15	,14	,18	0,22
16	,16	,18	0,17
17	,19	,10	0,42
18	,14	,18	-0,39
19	,15	,17	0,75
20	,13	,14	0,68
21	,14	,12	0,00

$df = (n_1+n_2)-2$

* = t-value significant at ,05 level

** = t-value significant at ,01 level

TABLE 6.38

GROUP DIFFERENCES IN ORP RATINGS BETWEEN GROUPS (AEN + AED) AND (CEN + CED)

Scale number	Standard Error (AEN + AED)	Standard Error (CEN + CED)	t-value
1	,11	,09	1,90
2	,12	,12	1,89
3	,16	,11	0,00
4	,19	,13	0,61
5	,16	,13	-2,18*
6	,10	,10	0,64
7	,17	,13	-0,79
8	,09	,09	0,08
9	,10	,09	1,41
10	,15	,12	1,41
11	,14	,11	0,06
12	,14	,10	1,28
13	,10	,09	0,00
14	,14	,11	0,17
15	,18	,11	0,05
16	,14	,12	1,74
17	,14	,10	0,23
18	,13	,11	-0,18
19	,11	,11	0,39
20	,14	,10	0,41
21	,10	,10	1,20

$df = (n_1+n_2)-2$

* = t-value significant at ,05 level

** = t-value significant at ,01 level

6.5 THE PREDICTION OF JOB SATISFACTION FROM NEED-REINFORCER CORRESPONDENCE

Following the analyses of the preceding questionnaires, two correspondence measures were used in the comparison of MIQ results with MJDQ (or ORP) results. These correspondence measures were the D-statistic (or distance measure) and the Pearson Rho (R or Shape index) correspondence index. From the tables that follow it will be seen that D^2 and R are generally negatively related, since the one is a similarity measure and the other a dissimilarity measure. Once these correspondence measures were calculated they were correlated with the MSQ scales for particular subgroups or combinations thereof.

Tables 6.39 - 6.49 present in tabulated form the correlation coefficients between the MSQ scales and the mentioned need-reinforcer correspondence measures. In each table the correspondence measures were calculated from the comparison of a different MIQ with a different ORP.

For example in table 6.47 (total MIQ and total ORP) the correlation between the D^2 correspondence index and General Satisfaction (that is MSQ 21) is -,0078. This correlation is insignificant, the p-value being higher than 0,050.

The shape correspondence index (R), however, is significantly correlated with General Satisfaction (MSQ 21), $r = 0,2126$ and $p<0,05$.

Examination of the data shows that the success by which one can predict satisfaction varies from group to group, depending both on the group and the ORP being used for comparison purposes.

In total, 100 or 15,36 percent of the 651 correlation coefficients between the shape index (R) and the 21 MSQ scales proved to be significant, of which only 12 or 1,84 percent were significant on the ,01 level.

In the case of the distance measure, only 51 or 7,83 percent of the 651 correlation coefficients between D^2 and the 21 MSQ scales proved to be significant. Of these only 16 or 2,46 percent were significant on the ,01 level. Of the 1302 correlations calculated 159 or 12,21 percent correlated significantly with the MSQ Scales,

while only 28 or 2,15 percent were significant on the ,01 level.

When taking into account only the results involving the MSQ General Satisfaction Scale (MSQ 21) as a global measure of correspondence and using a global satisfaction measure as the criterion, it is found that R correlated significantly with MSQ 21 on 7 or 22,58 percent of the 31 occasions. One of these seven was significant on the ,01 level. In the case of D^2 it was found that it correlated significantly with MSQ 21 on only four or 12,9 percent of the 31 occasions, none of which were on the ,01 level.

On the whole, no tendencies could be found in the results of the various subgroups or of the sample as a whole, apart from the fact that R seems to be a better predictor of satisfaction than D^2.

The main hypothesis stated that, for a given occupation, it is possible to predict job satisfaction from need-reinforcer correspondence. As already mentioned, this hypothesis is derived from the third proposition of the Theory of Work Adjustment which states that:
"SATISFACTION IS A FUNCTION OF THE CORRESPONDENCE BETWEEN THE REINFORCER SYSTEM OF THE WORK ENVIRONMENT AND THE INDIVIDUAL'S NEEDS, PROVIDED THAT THE INDIVIDUAL'S ABILITIES CORRESPOND WITH THE ABILITY REQUIREMENTS OF THE WORK ENVIRONMENT".

It was assumed that the subjects in the present study qualified for the latter provision of the proposition for the reason that they were selected for the job and thus had to have the abilities to fulfill the requirements of the occupation concerned.

What is the meaning of the results in relation to this third and main hypothesis? In general the results signify evidence for the validy of the hypothesis, but not to a substantial degree. There may be various reasons for this finding, one of which may relate to the use of composite group results instead of individual results, with a subsequent effect on the sensitivity of the measurement devices used.

Due to the fact that no significant differences were found in the ORP ratings of groups within a faculty or between faculties within the same work environment, the fourth and last hypothesis could not be investigated. This last hypothesis postulated that, given differences in ORP ratings of employees and supervisors, it is

possible to differentially predict job satisfaction from need-supervisor ORP correspondence and need-employee ORP correspon= dence.

TABLE 6.39

CORRELATION COEFFICIENTS BETWEEN MSQ SCALES AND NEED-REINFORCER CORRESPONDENCE MEASURES: CORRESPONDENCE CALCULATED FROM COMPARISON OF GROUP MIQ AGAINST THE ORP OF GROUP AEN

MSQ Scales	GROUPS			
	BEN + CEN		BED + CED	
	D^2	R	D^2	R
1	,0173	,1884	-,0051	-,0486
2	,0773	,0793	,0240	-,0270
3	,1102	-,0009	-,0027	,1193
4	-,0673	,3027*	-,1707	,2448
5	,1276	,3090*	-,2160	,1080
6	,0115	,2062	,1157	,1447
7	,0231	,3146*	-,1146	,2604
8	,0361	,2769	,1451	-,0663
9	,0163	-,0656	-,1969	,1489
10	,1673	,0527	-,1776	,1507
11	,1643	-,1731	,0089	,0987
12	,1513	,1364	-,1171	,1084
13	,0523	,1856	-,3078*	,1406
14	,0554	,1902	,0445	,1310
15	-,1086	,3802*	-,1238	,0604
16	,1776	,0270	,0120	-,0513
17	,0580	,2096	,0968	-,2056
18	,0790	,2991*	,1053	-,1695
19	,1308	-,0223	-,2964	,1178
20	,1655	-,0551	-,1484	-,3626*
21	,0758	,2530	-,1652	,1329
	N = 35		N = 31	

*p < ,05 One-tailed test of Significance
**p < ,01 One-tailed test of Significance

TABLE 6.40

CORRELATION COEFFICIENTS BETWEEN MSQ SCALES AND NEED-REINFORCER CORRESPONDENCE MEASURES: CORRESPONDENCE CALCULATED FROM COMPARISON OF MIQ AGAINST THE ORP OF GROUP AEN

MSQ Scales	GROUPS							
	BEN		BED		CEN		CED	
	D^2	R	D^2	R	D^2	R	D^2	R
1	-,2753	,1395	,2958	-,4475*	,2861	,2231	-,3503	,2741
2	-,2300	,1704	,2443	-,3221	,3242	,0062	-,2968	,2651
3	-,1534	-,0190	,2485	-,1346	,3668	,0171	-,2482	,3018
4	,0184	,4635*	,0606	-,0346	-,1435	,2238	-,5007*	,5338*
5	-,0150	,3785*	,0940	-,3512	,2220	,3041	-,6068**	,5018
6	-,0925	,3883*	,2339	-,0338	,1180	,0543	-,0281	-,3074
7	,0596	,4241*	,0327	,1499	-,0129	,2408	-,2133	,3296
8	-,2617	,2224	,2177	-,0365	,2136	,3110	-,0651	-,0848
9	-,3774*	-,0524	,0954	-,2021	,3445	-,1292	-,5342*	,4316
10	-,0768	-,0093	-,0544	,0565	,3932	,0481	-,3669	,2451
11	-,1165	-,1590	,3352	-,2720	,5380*	-,2975	-,3120	,3706
12	-,0452	,2477	,1398	-,0540	,3109	,0604	-,4113	,2419
13	-,2872	,3644	-,0033	-,2151	,3938	,0217	-,6461**	,4106
14	-,2307	,4843*	,3498	-,0481	,3596	-,1303	-,3329	,3094
15	-,3791*	,4684*	,2568	-,3935	,1391	,3032	-,6107**	,4819*
16	-,0584	,2037	,2321	-,1542	,3557	-,0825	-,3996	,0829
17	-,2111	,1573	,3463	-,2261	,3511	,2311	-,1987	-,1820
18	-,0941	,2132	,3427	-,2291	,2350	,3439	-,1846	-,1330
19	-,1304	,2298	-,0760	-,1007	,3577	-,2048	-,6121**	,4303
20	-,2326	,0846	-,2368	-,2798	,6017**	-,1980	-,0440	-,4438*
21	-,2461	,4263*	,1188	-,1577	,3523	,1219	-,4999*	,3704
	N = 20		N = 16		N = 15		N = 15	

*p < ,05 One-tailed test of Significance
**p < ,01 One-tailed test of Significance

TABLE 6.41

CORRELATION COEFFICIENTS BETWEEN MSQ SCALES AND NEED-REINFORCER CORRESPONDENCE MEASURES: CORRESPONDENCE CALCULATED FROM COMPARISON OF GROUP MIQ AGAINST THE ORP OF GROUP CEN

MSQ Scales	GROUPS			
	BEN + CEN		BED + CED	
	D^2	R	D^2	R
1	,0568	,1985	-,0418	-,0456
2	,1235	,0444	,0123	-,0391
3	,1112	,0192	-,0092	,1403
4	-,0332	,3265*	-,1196	,1868
5	,1661	,2842*	-,2416	,1272
6	,0488	,2064	,1445	-,1966
7	,0558	,3207*	-,1077	,2934
8	,1046	,2506	,1449	-,0511
9	,0371	-,0625	-,1863	,1159
10	,1578	,1296	-,1788	,1435
11	,1807	-,1796	-,0035	,0881
12	,1980	,1002	-,1258	,0942
13	,0922	,1844	-,3346*	,1752
14	,0587	,1767	,0759	,1046
15	,0433	,3360*	-,13873	,0644
16	,2165	-,0083	-,0098	-,0332
17	,1334	,1275	,1005	-,2522
18	,1548	,2118	,1207	-,1933
19	,1231	,0629	-,3110*	,1250
20	,1719	,0023	-,1933	-,3919*
21	,1319	,2404	-,1552	,1021
	N = 35		N = 31	

*p ,05 One-tailed test of Significance
**p ,01 One-tailed test of Significance

TABLE 6.42

CORRELATION COEFFICIENTS BETWEEN MSQ SCALES AND NEED-REINFORCER CORRESPONDENCE MEASURES: CORRESPONDENCE CALCULATED FROM COMPARISON OF MIQ AGAINST THE ORP OF GROUP CEN

MSQ Scales	GROUPS							
	BEN		BED		CEN		CED	
	D^2	R	D^2	R	D^2	R	D^2	R
1	-,2584	,1443	,2677	-,4548*	,3461	,2434	-,4288	,2818
2	-,1840	,0891	,2266	-,3047	,3600	,0077	-,3290	,2302
3	-,1777	-,0181	,2640	-,0950	,3970	,0540	-,2894	,3064
4	,0867	,3657	,1146	-,1175	-,1232	,3134	-,4704*	,4944*
5	-,0084	,3577	,0303	-,2969	,3027	,2606	-,6208**	,4903*
6	-,0272	,2610	,3080	-,0787	,1224	,1550	-,0646	-,3831
7	,0912	,3789*	,0336	,1923	,0250	,2755	-,1826	,3359
8	-,1904	,1346	,2359	,0327	,2855	,3253	-,1361	-,1217
9	-,3810*	-,0579	,1175	-,2929	,3520	-,0913	-,5587*	,4381
10	-,1128	,0994	-,0060	,277	,3676	,1467	-,4477*	,2657
11	-,0732	-,2279	,3067	-,2468	,4730*	-,1987	-,3198	,3241
12	-,0035	,1591	,1886	-,1401	,3579	,0578	-,5044*	,2818
13	-,2578	,3386	-,0427	-,1305	,4178	,0496	-,6865**	,4035
14	-,1724	,3977*	,4046	-,0308	,3306	-,0479	-,3631	,2731
15	-,3318	,4039*	,2128	-,3619	,2053	,2817	-,6332**	,4569*
16	,0032	,0759	,2173	-,0964	,3747	-,0660	-,4484*	,0358
17	-,1609	,0512	,3795	-,2558	,4329	,1914	-,2468	-,2395
18	-,0628	,1324	,3812	-,2663	,3362	,2695	-,1987	-,1616
19	-,1057	,2029	-,0895	-,2546	,3167	-,0475	-,6558**	,4915*
20	-,1969	,0953	-,2609	-,2801	,5643*	-,0958	-,1226	-,5006*
21	-,1839	,3350	,1441	-,1814	,3863	,1713	-,5317*	,3336
	N = 20		N = 16		N = 15		N = 15	

*p < ,05 One-tailed test of Significance
**p < ,01 One-tailed test of Significance

TABLE 6.43

CORRELATION COEFFICIENTS BETWEEN MSQ SCALES AND NEED-REINFORCER CORRESPONDENCE MEASURES: CORRESPONDENCE CALCULATED FROM COMPARISON OF GROUP MIQ AGAINST THE ORP OF GROUP AED

MSQ Scales	GROUPS			
	BEN + CEN		BED + CED	
	D^2	R	D^2	R
1	-,0182	,3647*	,0163	-,0906
2	,0314	,2489	,0307	-,0219
3	,0786	,0985	,0127	,1722
4	-,0485	,3953**	-,1388	-,2428
5	,1092	-,5106**	-,1641	-,0174
6	,0081	,3521*	,0257	,0013
7	,0562	,4237**	-,0203	,1556
8	,0752	,2817	,1783	-,1080
9	-,0352	,0045	-,1787	,1291
10	,1894	,0066	-,1442	,1232
11	,1226	-,1744	,0890	,0222
12	,1206	,3210*	-,0894	,0889
13	,0293	,3294*	-,2715	,0283
14	,0249	,2747	,1309	,0653
15	-,0565	,3968*	-,1218	,0642
16	,1369	,1380	,0174	-,0778
17	,0499	,3423*	-,0270	,0015
18	,0620	,4902**	,0102	-,0255
19	,1261	-,0250	-,3276*	,1441
20	,1780	-,1259	-,2980	-,2959
21	,0741	,3760*	-,1435	,1171
	N = 35		N = 31	

*p < ,05 One-tailed test of Significance
**p < ,01 One-tailed test of Significance

TABLE 6.44

CORRELATION COEFFICIENTS BETWEEN MSQ SCALES AND NEED-REINFORCER CORRESPONDENCE MEASURES: CORRESPONDENCE CALCULATED FROM COMPARISON OF MIQ AGAINST THE ORP OF GROUP AED

MSQ Scales	GROUPS							
	BEN		BED		CEN		CED	
	D^2	R	D^2	R	D^2	R	D^2	R
1	-,3277	,4114*	,1568	-,2511	,2810	,3324	-,1541	,0133
2	-,2640	,3876*	,1500	-,1859	,2825	,1447	-,1499	,0946
3	-,1845	,1298	,2037	-,0388	,3483	,0816	-,1845	,3129
4	,1173	,3795*	,0131	,0689	-,1944	,4390	-,3681	,4125
5	-,0252	,6669**	,0406	-,4039	,1996	,4829*	-,4341	,2670
6	-,0468	,4595*	,1944	,0972	,0706	,2642	-,2486	-,0797
7	,1473	,3718	,0923	,0920	-,0342	,4773*	-,1153	,2539
8	-,2059	,1650	,2598	-,1270	,2563	,3439	-,0230	-,1451
9	-,3904*	-,0050	-,0340	,0664	,1790	-,0654	-,3612	,1716
10	-,0535	-,1138	-,0775	,1318	,4372	,0032	-,2547	,0927
11	-,1868	-,0773	,3019	-,2223	,5480*	-,4130	-,1295	,1972
12	-,0449	,4089*	,0986	,0708	,2651	,2618	-,3177	,1013
13	-,2926	,6364**	-,0255	-,3086	,3754	,0658	-,5626*	,2629
14	-,1668	,5746**	,3599	,0078	,3348	-,0657	-,1255	,0566
15	-,2887	,4846*	,1563	-,2877	,1740	,3121	-,5047*	,3498
16	-,0282	,2097	,2302	-,1660	,2732	,0877	-,4187	,0448
17	-,2151	,2930	,2911	-,0731	,3582	,3522	-,4212	,0476
18	-,1131	,4273*	,2919	-,1086	,2304	,5158*	-,3989	,0823
19	-,0804	,2048	-,2257	,0492	,3190	-,1928	-,4875*	,2215
20	-,1671	-,1182	-,3696	-,2157	,5817*	-,1651	-2074	-,3807
21	-,2043	,5407**	,0458	-,0299	,3333	,2460	-,3789	,2145
	N = 20		N = 16		N = 15		N =15	

*p < ,05 One-tailed test of Significance
**p < ,01 One-tailed test of Significance

TABLE 6.45

CORRELATION COEFFICIENTS BETWEEN MSQ SCALES AND NEED-REINFORCER CORRESPONDENCE MEASURES: CORRESPONDENCE CALCULATED FROM COMPARISON OF GROUP MIQ AGAINST THE ORP OF GROUP CED

MSQ Scales	GROUP			
	BEN + CEN		BED + CED	
	D^2	R	D^2	R
1	-,0052	,2462	-,0151	,0089
2	,0581	,0929	,0115	,0551
3	,0973	,0095	-,0180	,2175
4	-,0610	,3712*	-,1438	,2531
5	,1153	,4267**	-,2155	,1293
6	,0134	,2432	,0855	,0809
7	,0655	,2877*	-,0977	,2668
8	,0429	,2818*	,1425	-,0056
9	-,0398	-,0099	-,1985	,1890
10	,1536	,0783	-,2000	,2345
11	,1416	-,2377	,0309	,1377
12	,1310	,1854	-,1005	,1450
13	,0277	,2540	-,3151*	,1732
14	,0354	,1600	,0442	,2226
15	-,0679	,3513*	-,1253	,1159
16	,1653	,0162	,0036	,0104
17	,0479	,2444	,0583	-,1264
18	,0761	,3531*	,0828	-,1281
19	,1026	,0140	-,3352*	,1760
20	,1860	-,1710	-,1982	-,3658
21	,0729	,2797	-,1725	,1997
	N = 35		N = 31	

*p < ,05 One-tailed test of Significance
**p < ,01 One-tailed test of Significance

TABLE 6.46

CORRELATION COEFFICIENTS BETWEEN MSQ SCALES AND NEED-REINFORCER CORRESPONDENCE MEASURES: CORRESPONDENCE CALCULATED FROM COMPARISON OF MIQ AGAINST THE ORP OF GROUP CED

MSQ Scales	GROUPS							
	BEN		BED		CEN		CED	
	D^2	R	D^2	R	D^2	R	D^2	R
1	-,2988	,2300	,2129	-,3006	,2618	,2659	-,2871	,2732
2	-,2281	,2132	,1934	-,1923	,2897	,0015	-,2545	,2953
$\bar{3}$	-,1366	-,0142	,1985	,0058	,3216	,0321	-,2430	,3917
4	,0748	,4451*	,0726	-,0244	-,1771	,3490	-,4674*	,5721*
5	,0012	,4906*	,0718	-,3117	,1832	,4311	-,5870*	,5323*
6	-,0486	,3992*	,1986	,0779	,0799	,1132	-,0869	-,2791
7	,1425	,3164	,0059	,2523	-,0073	,2746	-,1898	,3324
8	-,2157	,1435	,1914	,0645	,1968	,3556	,0075	-,1591
9	-,4039*	,0087	,0814	-,1449	,2666	-,0738	-,5364*	,4858*
10	-,0821	,0192	-,1140	,1759	,3803	,0718	-,3373	,2705
11	-,1460	-,1781	,3015	-,1613	,5315*	-,4187	-,2527	,3949
12	-,0341	,2956	,1526	-,0149	,2664	,1109	-,4044	,2909
13	-,2876	,4881*	-,0244	-,1563	,3506	,0518	-,6564**	,4540*
14	-,1747	,4864*	,3239	,0625	,3608	-,2028	-,2813	,3334
15	-,3230	,4808*	,2131	-,2839	,1709	,2431	-,5860*	,5149*
16	-,0155	,1471	,2209	-,0592	,3050	-,0675	-,4393	,1342
17	-,2095	,2030	,3321	-,1313	,3330	,2568	-,2762	-,1330
18	-,0848	,2833	,3296	-,1428	,2249	,3873	-,2667	-,0925
19	-,1071	,2456	-,1237	-,1200	,2859	-,1536	-,6463**	,4876*
20	-1893	-,0583	-,2866	-,2585	,5987**	-,2943	-,0818	-,4912*
21	-,2077	,4475*	,0760	-,0406	,3204	,1525	-,4762*	,4066
	N = 20		N = 16		N = 15		N = 15	

*p < ,05 One-tailed test of Significance
**p < ,01 One-tailed test of Significance

TABLE 6.47

CORRELATION COEFFICIENTS BETWEEN MSQ SCALES AND NEED-REINFORCER CORRESPONDENCE MEASURES: CORRESPONDENCE CALCULATED FROM COMPARISON OF TOTAL GROUP MIQ AGAINST TOTAL GROUP ORP

MSQ Scales	Correspondence	
	D^2	R
1	-,0001	,0903
2	,0526	-,0466
3	,0528	,0886
4	-,0878	,2862**
5	-,0009	,2477*
6	,0485	,0800
7	-,0024	,3045**
8	,0744	,1078
9	-,0874	,0625
10	-,0199	,1272
11	,0941	-,0707
12	,0663	,1469
13	-,0990	,1876
14	,0387	,1621
15	-,0942	,1997
16	,1140	-,0001
17	,0682	,0366
18	,0904	,1114
19	-,0631	,0706
20	,0498	-,2031
21	-,0078	,2126*

N = 66

* $p < ,05$ One-tailed test of significance

** $p < ,01$ One-tailed test of significance

TABLE 6.48

CORRELATION COEFFICIENTS BETWEEN MSQ SCALES AND NEED-REINFORCER CORRESPONDENCE MEASURES: CORRESPONDENCE CALCULATED FROM COMPARISON OF GROUP MIQ AGAINST TOTAL GROUP ORP

MSQ Scales	GROUPS			
	BEN + CEN		BED + CED	
	D^2	R	D^2	R
1	,0174	,2416	-,0165	-,0355
2	,0792	,0979	,0200	-,0046
3	,1025	,0210	-,0048	,1714
4	-,0480	,3525*	-,1388	,2374
5	,1386	,3768*	-,2190	,1104
6	,0261	,2431	,1061	-,1308
7	,0559	,3313	-,0949	,2745
8	,0673	,2810	,1533	-,0508
9	-,0060	-,0375	-,1909	,1539
10	,1653	,0789	,1811	,1810
11	,1543	-,2041	,0252	,1042
12	,1569	,1712	-,1084	,1161
13	,0542	,2349	-,3170*	,1551
14	,0378	,1947	,0712	,1516
15	-,0656	,3731*	-,1273	,0822
16	,1816	,0267	,0059	-,0329
17	,0797	,2190	,0718	-,1816
18	,1035	,3240*	,0939	-,1585
19	,1187	,0149	-,3218*	,1483
20	,1765	-,0899	-,2065	-,3816
21	,0948	,2820*	-,1608	,1491
	N = 35		N = 31	

*p < ,05 One-tailed test of Significance
**p < ,01 One-tailed test of Significance

TABLE 6.49

CORRELATION COEFFICIENTS BETWEEN MSQ SCALES AND NEED-REINFORCER CORRESPONDENCE MEASURES: CORRESPONDENCE CALCULATED FROM COMPARISON OF MIQ AGAINST TOTAL GROUP ORP

MSQ Scales	GROUPS							
	BEN		BED		CEN		CED	
	D^2	R	D^2	R	D^2	R	D^2	R
1	-,2865	,2072	,2413	-,3961	,2982	,2666	-,3316	,2550
2	-,2182	,1847	,2122	-,2720	,3180	,0275	-,2770	,2534
3	-,1582	-,0061	,2353	-,0682	,3587	,0469	-,2536	,3457
4	,0800	,4254*	,0805	-,0537	-,1544	,3276	-,4694*	,5399*
5	-,0027	,4528*	,0592	-,3463	,2364	,3696	-,5931*	,4994*
6	-,0448	,3664	,2462	,0035	,0998	,1358	-,0912	-,3085
7	,1157	,3766	,0353	,1998	-,0007	,3039	-,1869	,3376
8	-,2145	,1618	,2260	,0060	,2390	,3493	-,0617	-,1302
9	-,3935*	-,0290	,0853	-,1967	,3109	-,0930	-,5296*	,4370
10	-,0859	,0191	-,0610	,1022	,3920	,0795	-,3745	,2513
11	-,1248	-,1877	,3148	-,2346	,5167*	-,3330	-,2748	,3583
12	-,0251	,2606	,1610	-,0633	,3059	,1084	-,4344	,2638
13	-,2774	,4418*	-,0246	-,1926	,3858	,0501	-,6652**	,4212
14	-,1804	,4807*	,3663	,0012	,3463	-,1204	-,3019	,2863
15	-,3289	,4636*	,2167	-,3550	,1761	,2936	-,6063**	,4873*
16	-,0155	,1425	,2297	-,1159	,3328	-,0495	-,4407*	,0826
17	-,1939	,1559	,3527	-,2012	,3763	,2529	-,2776	-,1632
18	-,0791	,2369	,3517	-,2142	,2670	,3734	-,2506	-,1102
19	-,1063	,2311	-,1175	-,1702	,3154	-,1467	-,6339**	,4594*
20	-,1994	,0151	-,2862	-,2747	,5898**	-,2051	-,1098	-,4885*
21	-,2033	,4260*	,1067	-,1195	,3519	,1702	-,4952*	,3662
	N = 20		N = 16		N = 15		N = 15	

* p < ,05 One-tailed test of Significance
** p < ,01 One-tailed test of Significance

CHAPTER 7

DISCUSSION AND IMPLICATIONS

To review, four hypotheses were postulated in relation to the present study, namely:

a) for a given job there are no differences in the ratings of the employees and supervisors

b) for a given job there are no differences in the ORP ratings of various employee- and supervisor rater groups within the same work environment

c) for a given job it is possible to predict job satisfaction from need-reinforcer correspondence

d) given differences in ORP ratings of employees and supervi= sors, it is possible to differentially predict job satis= faction from need-supervisor ORP correspondence and need-employee ORP correspondence.

Analysis of the research results indicated that there was no reason for the rejection of the first two null-hypotheses. The calculated t-values were overall insignificant on both the five percent and one percent levels. Similarly the calculated corre= lation coefficients between employee based ORPs and supervisor based ORPs gave rise to high scores, indicating substantial cor= respondence.

The third and main hypothesis of the study postulated the pre= diction of job satisfaction from need-reinforcer correspondence. Analysis of this research problem resulted in only 12,21 per= cent of the 1302 correlation coefficients calculated being sig= nificant on either the ,05 or ,01 levels. Of the two corre= spondence measures used, the shape index (R) proved to be a bet= ter predictor of job satisfaction than the distance index (D^2). This coincides with current findings of the Industrial Relations Center, University of Minnesota, Minnesota, U.S.A. In the case

of the shape index (R) 15,36 percent of the 651 correlation coefficients were significant on either level, while in the case of D^2 only 7,83 percent of the 651 calculated correlation coefficients were significant on either level.

Due to the fact that the first two null-hypotheses could not be rejected as a result of the similarity in ORPs, the fourth and last hypothesis could not be investigated.

7.1 CONCLUSIONS

What conclusions, if any, can be inferred from the findings of the present study?

The fact that there were very little differences in the ORPs of various rater groups, does not necessarily mean that this finding can be generalized. As already mentioned, no conclusive results have been found as yet. For example, Betz (1968) found significant differences on a number of MJDQ scales when different rater groups were used. Warren (1970), however, found differences on a limited number of MJDQ scales and overall high similarity between different profiles when correlation coefficients were computed. Before generalizations can be formulated, more research needs to be done in this field. What would be of special interest is to see in what way demographic variables differentially contribute to the manner in which ORPs are rated.

With regard to the third and main hypothesis of this study, little evidence was found for the relationship between job satisfaction and need-reinforcer correspondence. However, the fact that a percentage of the correlation coefficients were significant is enough indication for the continuation of research in this field. Warren (1970) also investigated this research problem and found a similar low relationship between job satisfaction and need-reinforcer correspondence. In her case only ten percent of the 228 correlation coefficients computed were significant.

The differential prediction of job satisfaction from need-supervisor ORP correspondence and need-employee ORP correspondence, given differences in ORP ratings, requires further research.

In general the results signify evidence for the validity of the measurement devices and correspondence measures used, as well as for the construct validity of the Theory of Work Adjustment, although not to a substantial degree.

7.2 IMPLICATIONS OF STUDY

What are the implications of the present study?

Overall it again emphasized the importance of the individual in relation to the work environment and the dilemma in which many people find themselves when they have to make an occupational choice.

The Theory of Work Adjustment proposes a matching model that finds its application in vocational counselling and in the recruitment and selection phase of the personnel function. This matching model needs to be carefully used by trained people who are sensitive to individual differences. In addition to this, knowledge of the measurement of individual needs and abilities are required of the counsellor, who must be able to relate it to the ability requirements and reinforcer pattern of the work environment. In other words, he must understand work environments in work-personality terms and as such be able to view individuals in terms predictive of their work adjustment and possible subsequent job satisfaction. Above anything else, he must be able to communicate this knowledge to the individual concerned.

Of what value is the prediction principle to management? This principle is of extreme importance because it has direction implications for the growth of the organization. As already mentioned, the Theory of Work Adjustment also finds its application in selection programmes, where it can be used in different ways and for different purposes. For example, it can be used as a screening device and as such contribute to the establishment of a stable work force. It can also be used as a device to identify problem areas in the work environment and thus lead to the solution thereof.

7.3 RESEARCH SUGGESTIONS

What are the specific research suggestions stemming from the present study?

The study employed the use of composite profile analyses. In otherwords, it was always the responses of a group which were used, rather than that of the individual. It would be of inte= rest to see whether the use of individual scores and profile would have a differential effect on results or not.

For example, if the individual's MIQ profile was matched with the group ORP (from either supervisors or workers in the same occupation) would the chances of job satisfaction prediction from need-reinforcer correspondence increase or not? Should there be an increase in significant correlation coefficients, are there any tendencies of some kind? From the foregoing it may be possible to infer in which way the use of group responses rather than individual responses had a contaminating effect on the sensitivity of the measurement devices used.

What is the duty of research in this regard? The answer to this question is simple, namely: intensified research in the area of measurement problems and further investigation into ways and means of defining problem areas and, if possible, the develop= ment of more sensitive measurement devices. The global philo= sophy must be: try and try again .... investigating from all possible angles.

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CHAPTER 8

SUMMARY

Work is a phenomenon known to everyone. As from childhood the individual is constantly confronted with the task of preparation for a vocation. This is done for various reasons, one of which is that work is a means to an end. To many people work provides the basic necessities of life, that is food and shelter. To them, work has no intrinsic value and it is often thought of as a necessary burden. But work is not only a means to an end, it also confers status and identification, for in our society one is not only identified by one's name or background, but also by the job one does.

There comes a time in the life of every (or almost every) individual when he has to make a decision as to what he is going to do with his life. For some people this decision is easier to make than for others, simply for the reason that interests may have stabilized earlier for one person than for another. There may also be other factors that facilitate this decision, for example, the availability of money, opportunities of some or other nature, and so forth.

For the person who finds it difficult to make a decision as to what field of work to engage in, it is extremely important that the necessary guidance be supplied. In the absence of vocational guidance it may happen that the individual may choose a vocation that does not necessarily suite his abilities, needs or interests. This can result in job dissatisfaction and subsequent costly labour turnover. From the individual's point of view it is thus extremely important that his abilities, needs and interests should be related to the requirements and reinforcers (that is needsatisfying conditions) of a specific work environment. This calls for a systematic matching model and to this end the Theory of Work Adjustment proposes many ideas and practical principles.

This Theory of Work Adjustment focuses on the description of

the individual's work personality in terms of abilities vocational needs and personality style dimensions. At the same time it also describes the work environment in terms of ability requirements, need satisfying conditions (work reinforcers) and environmental style conditions. Amongst others, this need fullfillment model proposes that job satisfaction is a function of the degree to which vocationally relevant needs are satisfied by the work environment. Needs, in this context, refer to preferences for particular conditions and outcomes of work.

The matching model is however, not only important from the individual's point of view (and by implication the vocational counsellor's), but is also important from management's point of view. Already as early as the selection phase, management must have some idea of the individual's likelihood to remain in a job, for labour turnover is a costly variable that must be limited as far as possible. In its attempt to create a work environment condusive to job satisfaction, management has come to the realization that the individual is unique and that each one differs from every other one. But their realization and the attempts to "improve" the work environment is not sufficient. What the individual also requires, is a clear picture of what the work entails, what the requirements are and which needsatisfying conditions the work environment offers. Once this information is also provided, the matching model can come into operation.

Bearing the importance of job satisfaction in mind, this study had as its focus the prediction of job satisfaction within the context of the Theory of Work Adjustment. As already referred to, this theory postulates that it is possible to predict job satisfaction if one matches the individual's work relevant needs and the reinforcer characteristics of the work environment, on condition that the individual's abilities fullfill the requirements of the work environment.

The reinforcer characteristics of the work environment refer to aspects such as: ability utilization, chances for advancement, compensation, company policies and practices, security and so forth. Basically it covers the spectrum of the primary and secondary needs as referred to by Maslow and the hygiene and

motivating factors referred to by Hertzberg. Together these reinforcer characteristics form a pattern, the so called occupational reinforcer pattern (ORP).

This pattern can be obtained by using various groups of raters, for example supervisors or employees doing the job. One of the questions researchers and users of this model face is whether supervisors and employees rate these reinforcers in the same manner or not. The answer to this question will solve a monumental problem, for it is most important that the most objective rating of an ORP is used. To date, there have been no conclusive results pertaining to this question and for this reason the problem of possible differences in ORP ratings between supervisors and employees was included in this study as a minor research problem. Inferred from this research problem, two other hypotheses were postulated, namely: that there will be no differences in the ORP ratings of various groups of supervisors and employees within the same work environment and that should significant differences be found, it would be possible to differentially predict job satisfaction from need-supervisor ORP correspondence and need-employee ORP correspondence. The main hypothesis was the prediction of job satisfaction from need-reinforcer correspondence.

In the execution of the experimental procedure the academic staff of the Engineering and Education faculties of the University of Stellenbosch (Stellenbosch, South Africa) were used as subjects, all being employed in the job of Teacher: Adult Education.

These subjects were divided into three groups per faculty, one group (that is all professors) being the supervisor group and the other two groups being employee groups. Using three measurement devices developed by the Industrial Relations Center at the University of Minnesota (Mineapolos, Minnesota, U.S.A.), it was possible to measure the vocational needs and job satisfaction of the various subgroups and to determine the ORP of the job of Teacher: Adult Education.

The measurement devices used were the:

- Minnesota Importance Questionnaire (MIQ) as a measure of vocational needs
- Minnesota Satisfaction Questionnaire (MSQ), as a measure of job satisfaction, and
- Minnesota Job Description Questionnaire (MJSQ), as a mea= sure of the reinforcer characteristics of the work environ= ment.

Using two correspondence measures (D^2 = distant measure and R = Pearson Rho: space index) it was possible to determine the need-reinforcer correspondence between MIQ and MJDQ re= sults. Once this was done, the correspondence values were correlated with the MSQ scales for each subgroup. This result= ed in 1302 correlation coefficients of which 159 or 12,21 per= cent were significant at either the ,05 or ,01 level. Relating this to the main hypothesis of this study, it can be said that some evidence for the validity thereof (and by implication of the Theory of Work Adjustment) has been found, but not substan= tial enough for research purposes. With regard to the differences in ORP ratings using different groups of raters, it has been found that there were no significant differences in ratings of employees and supervisors within the same faculty (for example engineering) or between faculties within the same work environ= ment. These findings had the effect that the fourth and last hypothesis, regarding the differential prediction of job satis= faction from need-supervisor ORP correspondence or need-employee ORP correspondence, could not be investigated.

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GLOSSARY

Ability requirements : Minimum levels of several abilities required of a worker to predict satisfactoriness.

Correspondence : A relationship in which an individual and his environment are mutually responsive.

Correspondence, in work setting : A relationship in which an individual fulfills the requirements of the work environment and the work environment fulfills the requirements of the individual.

Interests : Preferences for activities, deriving from the interaction of an individual's needs and abilities.

Need dimensions : Basic dimensions representing common elements in reinforcement-value dimensions, used to describe in sparingly terms an individual's experience with or evaluation of stimulus conditions.

Personality : The unique pattern of stable characteristics that distinguishes a responding organism as an individual.

Personality Structure : The abilities, needs, and interaction of abilities and needs, of an individual.

Personality Style : An individual's characteristic manner of utilizing his abilities (style of responding) and satisfying his needs (style of reacting to stimulus conditions).

Preferences : An individual's description of his norms for stimulus conditions or activities. These norms are derived from his ex=

perience with stimulus conditions or activities and his evaluation of how satisfying the experiences were.

Psychological Needs : The reinforcement values of stimulus conditions. This differs from common usage in which the term need is used to denote a state of deprivation.

Reinforcement : The maintenance or increase of respond= ing associated with either the presence of or the introduction of reinforcers.

Reinforcement values : The degree to which stimulus conditions function as reinforcers for an individual. Reinforcement values may be actual (ex= perienced by the individual), stated (reported by the individual), or observed (reported by an observer).

Reinforcement-value dimension : A dimension along which different re= inforcement values are observed for different individuals but for the same stimulus condition.

Reinforcer system : The need-satisfying characteristics of the work environment. This system can be described in terms of the minimum levels of reinforcement values for seve= ral reinforcers required to predict the satisfaction of an individual.

Reinforcers : Stimulus conditions consistently asso= ciated with the maintenance or increase of responding.

Satisfaction : Fullfillment of the requirements of an individual by the work environment.

Satisfactoriness	:	Fullfillment of the requirements of the work environment by an individual.
Skills	:	Recurring response sequences in the observed behaviour of an individual.
Stability	:	Relatively little change in repeated measurements of an individual's perso= nality characteristics (his abilities and needs).
Tenure	:	Remaining in a job as a manifestation of correspondence between an individual and his work environment.
Work adjustment	:	The continuous and dynamic process by which the individual seeks to achieve and maintain correspondence with his work environment.
Work environment	:	The setting in which work behaviour takes place, described in terms of ability requirements and need-satisfying charac= teristics.
Work personality	:	The abilities and needs of an individual that are most relevant to work behaviour, and the characteristic functioning of these abilities and needs in the work setting.

(Adapted from Lofquist and Dawis, 1969).

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REFERENCE LIST

Anderson, N. Dimensions of work: The sociology of a work culture. New York: David McKay, 1964.

Argyle, M. The social psychology of work. Harmondsworth: Penguin, 1974.

Bass, B.M. and Barrett, G.V. Man, work and organizations: An introduction to industrial and organizational psychology. Boston, Massachusetts: Allyn and Bacon, 1972.

Becker, H.S. (Ed) Social problems: A modern approach. New York: Wiley and Sons, 1966.

Berger, P.L. The human shape of work. New York: Mac Millan, no date.

Best, F. (Ed) The future of work. New Jersey: Englewood Cliffs, Prentice-Hall, Inc., 1973.

Betz, E.L. Occupational reinforcer patterns and need-rein= forcer correspondence in the prediction of job satisfaction. Unpublished doctoral dissertation, University of Minnesota, U.S.A., 1968.

Borgen, F.H., Weiss, D.J., Tinsley, H.EA., Dawis, R.V. and Lofquist, L.H. The measurement of occupational reinforcer patterns. Minnesota Studies in Vocational Rehabilitation, 1968, XXV.

Borgen, F.H., Weiss, D.J., Tinsley, H.E.A., Dawis, R.V. and Lofquist, L.H. Occupational reinforcer patterns: Volume 1 (revised edition) Vocational Psychology Research, Department of Psychology, University of Minnesota, U.S.A., 1972.

Borow, H. (Ed) Man in a world at work. Boston, Massachusetts: Houghton Mifflin, 1964.

Braude, L. Work and workers: A sociological analysis. New York: Praeger Publishers, 1975.

Bryant, C.D. (Ed) The social dimensions of work. New York: Prentice-Hall, 1972.

Coburn, D. Job-worker incongruence: Consequences for health. Journal of Health and Social Behaviour, 1975, 16 (2), 198-212.

Cohen, J. The ideas of work and play. British Journal of Sociology, 1953, 4, 312-322.

Costello, J.M. and Lee, S.M. Need fullfillment and job satis= faction of professionals. Public Personnel Management, 1974, 3 (5), 454-461.

Cull, J.G. and Hardy, R.E. (Eds) Adjustment to work. Springfield, Illinois: Charles C. Thomas, 1973.

Dawis, R.V., England, G.W. and Lofquist, L.H. A theory of work adjustment. Minnesota Studies in Vocational Re= habilitation, 1964, XV.

Dawis, R.V. and Lofquist, L.H. Toward a psychological taxonomy of work. Journal of Vocational Behaviour, 1975, 7(2), 165-171.

Dawis, R.V. and Lofquist, L.H. Personality style and the process of work adjustment. Journal of Counseling Psycho= logy, 1976, 23(1), 55-59.

Dawis, R.V., Lofquist, L.H. and Weiss, D.J. A theory of work adjustment (A revision). Minnesota Studies in Vocational Rehabilitation, 1968, XXIII.

Desmond, R.E. and Weiss, D.J. Supervisor estimation of abili= ties required in jobs. Journal of Vocational Behaviour, 1973, 3(2), 181-194.

Domm, D.R., Blakeney, R.N., Matteson, M.T. and Scofield, R. The individual and the organization. New York: Harper and Row, 1973.

Downey, H.K., Hellriegel, D. and Slocum, J.W. Congruence between individual needs, organizational climate, job satisfaction and performance. Academy of Management Journal, 1975, 18, 149-155.

Fox, A. A sociology of work in industry. London: Collier-MacMillan, 1971.

Friedman, E.A. and Havighurst, R.J. The meaning of work and retirement. Chicago: University Press, 1954.

Gay, E.G., Weiss, D.J., Hendel, D.D., Dawis, R.V. and Lofquist, L.H. Manual for the Minnesota Importance Questionnaire. Minnesota Studies in Vocational Rehabilitation, 1971, XXVIII.

Gilbert, L.D. The changing work ethic and rehabilitation. Journal of Rehabilitation, 1973, 39 (N4), 14-17.

Gilmer, B. von H. Applied psychology: Adjustments in living and work (2nd edition). New York: McGraw-Hill, 1975.

Ginzberg, E., Ginzberg, S.W., Axelrad, S. and Herma, J.L. Occupational choice. New York: Columbia University Press, 1951.

Guion, R.M. and Landy, F.J. The meaning of work and the motivation to work. Organizational Behavior and Human Performance, 1972, 7 (2), 308-399.

Holland, J.L. The psychology of vocational choice. Waltham, Massachusetts: Blaisdell Publishing Company, 1966.

Holland, J.L. Making vocational choices: A theory of careers. Englewood Cliffs, New Jersey: Prentice-Hall, 1973.

Hughes, E.C. Men and their work. New York: Free Press, 1958.

Jaques, E. Work, creativity and social justice. London: Heineman, 1970.

Karsh, B. The meaning of work in an age of automation. In: Davis, K. and Scott, W.G. (Eds) Readings in human relations. New York: McGraw-Hill, 1959.

Lawler, E.E. For a more effective organization - match the job to the man. Organizational Dynamics, 1974, 3(1), 19-29.

Lofquist, L.H. and Dawis, R.V. Adjustment to work: A psychological view of man's problems in a work-orientated society. New York: Meredith Corporation, 1969.

Lofquist, L.H. and Dawis, R.V. Vocational needs, work reinforcers and job satisfaction. Vocational Guidance Quarterly, 1975, 24 (2), 132-139.

Macarov, D. Incentives to work. San Francisco: Jossey-Bass Inc., 1970.

Maurer, P. Antecedents of work behavior. American Journal of Occupational Therapy, 1971, 25 (6), 295-297.

Morrison, D.M. Is the work ethic going out of style? Time, 1972, 100, 96-97.

Muller, J.P. Work and the experience of time. Unpublished MA-thesis, U.P.E., 1972.

Neff, W.S. Work and human behavior. New York: Atherton Press, 1968.

Nosow, S. and Form, W.H. (Eds) Man, work and society. New York: Basic Books, 1962.

Pallone, N.J., Hurley, R.B. and Rickard, F.S. Emphases in job satisfaction research: 1968-1969. Journal of Vocational Behavior, 1971, 1 (1), 11-28.

Parker, S.R. The future of work and leisure. London: MacGibbon and Kee, 1971.

Pervin, L.A. Performance and satisfaction as a function of the individual-environment fit. Psychological Bulletin, 1968, 69, 56-68.

Roe, A. The psychology of occupations. New York: Wiley, 1956.

Rosen, S.D., Hendel, D.D., Weiss, D.J., Dawis, R.V. and Lofquist, L.H. Occupational reinforcer patterns: Volume 2 (revised edition) Vocational Psychology Research, Department of Psychology, University of Minnesota, U.S.A., 1972.

Scanlan, B.K. Determinants of job satisfaction and productivity. Personnel Journal, 1976, 55, 12-14.

Schaffer, R.H. Job satisfaction as related to need satisfaction in work. Psychological Monographs, 1953, 67, 1-29.

Scott, D. The psychology of work. London: Duckworth, 1970.

Scott, T.B., Dawis, R.V., England, G.W. and Lofquist, L.H. A definition of work adjustment. Minnesota Studies in Vocational Rehabilitation, 1958, X.

Seiler, D.A. and Lacey, D.W. Adapting the work adjustment theory for assessing technical-professional uti= lization. Journal of Vocational Behavior, 1973, 3(4), 443-451.

Seybolt, J.W. Job satisfaction and turnover in work organizations as a function of the person - environment interaction. Unpublished doctoral dissertation, Cornell University, U.S.A., 1975.

Smart, J.C. Environment as reinforcer systems in the study of job satisfaction. Journal of Vocational Behavior, 1975, 6 (3), 337-347.

Super, D.E. The psychology of careers: an introduction to vocational development. New York: Harper 1957.

Super, D.E. and Bohn, M.J. Occupational psychology. Belmont, California: Wadsworth, 1970.

Thompson, A.S. Homo laborans: An analysis of the meaning of work. Bulletin of the International Association of Applied Psychology, 1963, 12, 5-23.

Tilgher, A. Work: What it has meant to men through the ages. New York: Harcourt Brace, 1930.

Tinsley, H.E. and Weiss, D.J. A multivariate investigation of the reinforcer structure of occupations. Journal of Vocational Behavior, 1974, 4(1), 97-113.

Tuckman, B.W. Personality and satisfaction with occupational choice: role of environment as a mediator. Psychological Reports, 1968, 23(2), 543-550.

Vroom, V.H. Work and motivation. New York: Wiley and Sons, 1964.

Warnath, C.F. Vocational theories: Direction to nowhere. Personnel and Guidance Journal, 1975, 53, 422-428.

Warren, L.W. The prediction of job satisfaction as a function of the correspondence between vocational needs and occupational reinforcers. Unpublished doc= toral dissertation, University of Minnesota, U.S.A., 1970.

Weber, Max The protestant ethic and the spirit of capitalism. New York: Charles Scribner's Sons, 1930.

Weiss, D.J., Dawis, R.V., England, G.W. and Lofquist, L.H. An inferential approach to occupational reinfor= cement. Minnesota Studies in Vocational Rehabi= litation, 1965, XIX.

Weiss, D.J., Dawis, R.V, England, G.W. and Lofquist, L.H. Manual for the Minnesota Satisfaction Question= naire. Minnesota Studies in Vocational Rehabi= litation, 1967, XXII.

Wolfbein, S. Work in american society. Glenview, Illinois: Scott, Foresman, 1971.

Zytowksi, D.G. (Ed) Vocational behavior: Readings in theory and research. New York: Holt, 1968.

Zytowski, D.G. (Ed) Contemporary approaches to interest measure= ment. Minneapolis, Minnesota: University Press, 1973.

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APPENDIX A

MAJOR DEVELOPMENTS IN THE HISTORY OF VOCATIONAL PSYCHOLOGY

Dawis, England and Lofquist (1964) give a summary of the major developments as they occurred in the history of vocational psychology.

In chronological order these major events are:

- 1909: Parsons, F.:
  Publishes his classic "bible" for guidance, entitled Choosing a Vocation. Parsons proposed the use of man-analysis plus job-analysis and a bringing together of the two in the interest of wise vocational choice. His conceptualization of guidance centered on a matching model and paved the road for what is now known as the trait-and-factor centered approach to vocational psychology;

- 1924, 1932: Viteles, M.S.:
  Develops the job psychograph (to be explained in text);

- 1935: Dvorak, B.J.:
  Develops occupational ability patterns. This led to the development of Occupational Aptitude Patterns (OAPs) by the United States Bureau of Employment Security in 1958;

- 1938: Paterson, D.G.:
  Publishes Genesis of Modern Guidance, an application of Paterson's man-analysis, which was done on a rather unsophisticated basis;

- 1943, 1955: Strong, E.K.:
  Develops measures for vocational interests. Following this was Clark's Minnesota Vocational Interest Inventory in 1961;

- 1941, 1953: Paterson, D.G. and co-workers:
  Publish counselling tools such as the Minnesota Occupational Rating Scales and the Worker Trait Requirements for 4000 jobs (1956). Both were attempts to integrate worker traits and job re= quirements;

- 1958: Dvorak, B.J.:
  Develops multi-factor tests, with occupational norms, such as the General Aptitude Test Battery (GATB).

During the two world wars, the study and understanding of man-analysis progressed, largely because of extensive interest and work in the study of individual differences, particularly in the measurement of mental traits and interests (as illustrated above).

Job-analysis techniques also become considerably more sophisti= cated, mainly due to the work of the United States Department of Labour. The latter culminated in the publication of the Dictionary of Occupational Titles (DOT). This work continues in the current efforts to revise and to considerably expand the D.O.T.

A frustrating period due to measurement problems and problems on how to match abilities and educational-vocational requirements, as well as how to evaluate the goodness of fit, followed these major developments.

Dawis et al. (1964) conclude that:

- with the availability of more sophisticated tools and tech= niques for man and job analysis
- better understanding of relationship and communication fac= tors in counselling
- renewed realization of the importance of need satisfaction through work, and
- the study of the developmental aspects of concepts such as vocational maturity,

the time seems right for a reformulation of Parsons' approach.

Quoting Brayfield (1961 in Dawis et al., 1964), perhaps the most significant contribution to vocational counselling as a professional practice will be made by those who nourish testable hypotheses and empirical data, which will aid the building of a science of occupational behaviour.

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APPENDIX B

MEASUREMENT DEVICES

Measurement devices currently available for application of the Theory of Work Adjustment include the following, all of which (with the exception of the first mentioned) were developed by the WAP (Dawis, in Cull and Hardy, 1973; Gay et al., 1971):

- the U.S. Department of Labour's General Aptitude Test Battery (GATB) and Occupational Aptitude Patterns (OAPs): measuring individuals' vocationally relevant needs;

- the Minnesota Satisfaction Questionnaire (MSQ), measuring the satisfaction of individuals' needs through work;

- the Minnesota Job Description Questionnaire (MJDQ), measuring the reinforcers available in specific jobs (work environments) and the levels at which they exist. Using the MJDQ, Occupational Reinforcer Patterns (ORPs) have been developed for 148 jobs; and

- the Minnesota Satisfactoriness Scales (MSS), measuring how satisfactorily individuals perform on their jobs (in specific work environments).

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APPENDIX C

THE MINNESOTA JOB DESCRIPTION QUESTIONNAIRE (MJDQ)

The MJDQ comes in two forms - Form E for employees and Form S for supervisors. The forms are the same except for the different orientation to rating the job required by supervisors (or other "experts") and employees. Form E also includes the short-form of the MSQ.

Description:

The MJDQ is a measure of an individual's perception of the reinforcer characteristics of an occupation on the same dimensions measured by the MIQ. It is thus designed for the rating of the reinforcer (need-satisfier) characteristics of jobs.

In typical applications of the MJDQ, a group of raters (e.g. supervisors, employees, job analysts) are asked to rate a specific job. Composite scaling of the MJDQ's completed by all raters is called an Occupational Reinforcer Pattern (ORP). The latter is thus the pattern of rated reinforcers or need-satisfiers on a given job by a group of raters (supplement to Borgen, Weiss, Tinsley, Dawis and Lofquist, 1968).

This rating instrument uses combinations of twenty-one statements describing the reinforcer characteristics of work environments. These statements were derived from the MIQ and are worded so that the rater considers how well the statements describe a particular job (Rosen, Hendel, Weiss, Dawis and Lofquist, 1972).

The MJDQ thus contains 21 ranking blocks, each containing five statements. Each of the 21 statements appear in five ranking blocks, but each time with a different set of four other items (Borgen et al., 1968).

The twenty-one statements used in the MJDQ and their corresponding scale names are the following (Rosen et al., 1972):

	Scale	Item
1.	Ability utilization	make use of their abilities
2.	Achievement	get a feeling of accomplishment
3.	Activity	are busy all the time
4.	Advancement	have opportunities for advancement
5.	Authority	tell other workers what to do
6.	Company policies and prac= tices	have a company which administers its policies fairly
7.	Compensation	are paid well in comparison with other workers
8.	Co-workers	have co-workers who are easy to make friends with
9.	Creativity	try out their own ideas
10.	Independence	do their work alone
11.	Moral values	do work without feeling that it is morally wrong
12.	Recognition	receive recognition for the work they do
13.	Responsibility	make decisions on their own
14.	Security	have steady employment
15.	Social service	have work where they do things for other people
16.	Social status	have the position of "somebody" in the community
17.	Supervision-Human Relations	have bosses who back up their men (with top management)
18.	Supervision-technical	have bosses who train their men well
19.	Variety	have something different to do every day
20.	Working conditions	have good working conditions
21.	Autonomy	plan their work with little supervision.

The first twenty scales listed are parallel to those used in the MIQ and the MSQ. The Autonomy scale was added because of ranking design requirements (for detail: see Borgen *et al.*, 1968: pp.10-11).

Respondents are asked to consider each group of five state= ments individually and to rank the five in terms of how well they describe the job, using the numbers "1" to "5".

The following is an example of how the answers to a group of statements might look:

Workers on this job ...
4 get full credit for the work they do
3 are of service to other people
2 have the chance to get ahead
1 have freedom to use their own judgement
5 do new and original things on their own.

A copy of the MJDQ instruction page and the first page of items are included in this appendix.

Administration:

The MJDQ is a self-administering instrument. Full instructions appear on the front page of the questionnaire and are repeated at the top of each page. There is no time limit.

Scoring (to obtain ORPs):

The basis for scoring data from the MJDQ is found in Thurstone's Law of Comparative Judgment (Borgen et al., 1968).

However, because the MJDQ is virtually impossible to score by hand, a computer scoring service is available at the Industrial Relations Center at the University of Minnesota, Minneapolis, Minnesota, U.S.A.

ORP profiles

The graphic profile shows at a glance the reinforcer pattern characteristics of the concerned occupation. These profiles currently available for 148 occupations, have several features which are designed to help counsellors use ORP information (Rosen et al., 1972).

To illustrate these features, a sample profile, the ORP for Barber (Rosen et al., 1972: pp.34-35) is reproduced on page 173.

It is important to notice that the scale for the graphic profile ranges from -1,5 through 0,0 to +2,5 in intervals of ,50.

On this scale a unit of 1,0 equals one standard deviation. Positive scale values (above 0,0) indicate reinforcers which are descriptive of the occupation; negative scale values (below 0,0) indicate reinforcers which are not descriptive of the occupation and, by implication, whose absence is descriptive of the occupation.

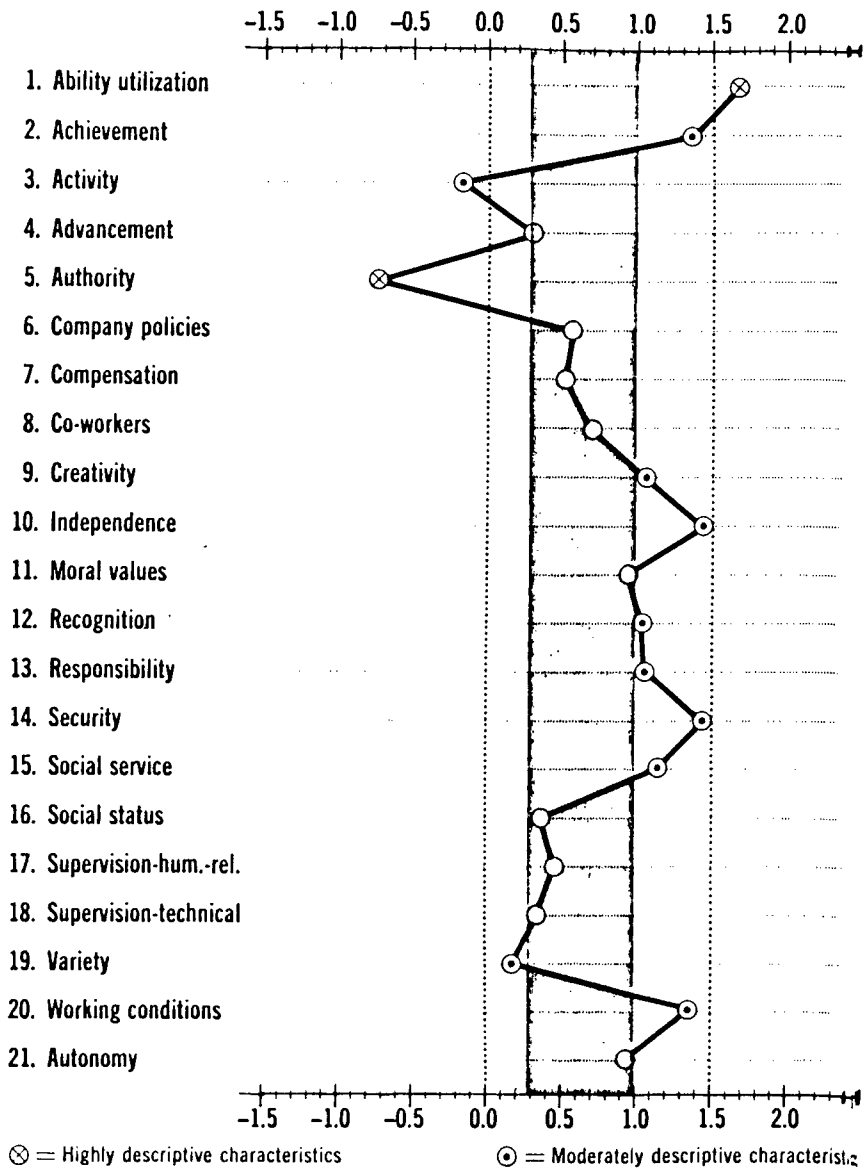
On the profile of Barber, Ability utilization, Achievement, Creativity, Independence, Recognition, Responsibility, Security, Social service and Working conditions are reinforcers descriptive of the occupation, while Authority and Activity are reinforcers which are not descriptive (and thus their absence is descriptive).

The graphic profiles indicate which reinforcers are highly descriptive of the occupation. Reinforcers which are highly descriptive (in either a positive or negative sense) are indicated by the symbol X ; reinforcers which are moderately descriptive are indicated by the symbol ⊙.

In the illustrated profile (that of Barber), highly and moderately descriptive reinforcers are shown on the profile for both positive and negative scale values.

For Barbers, Ability utilization is a highly descriptive reinforcer, with a positive scale value, whereas Authority is a highly descriptive reinforcer with a negative scale value.

This can be interpreted as meaning that an important work characteristic for Barbers is "to make use of their individual abilities" (Ability utilization) and that it would be quite unlikely for a Barber to be in a position to "tell other workers what to do" (Authority).



Adapted from Rosen et al., 1972, pp.34-35.

Barber

(N = 26 Raters)

O.A.P. = 54

1965 D.O.T. = 330.371

Descriptive Characteristics

Make use of their individual abilities
Do not tell other workers what to do
Have steady employment
Do their work alone
Have good working conditions
Get a feeling of accomplishment
Have work where they do things for other people
Try out their own ideas
Make decisions on their own
Receive recognition for the work they do
Are not busy all the time
Do not have something different to do every day

Occupations with Similar ORPs

Automobile-Body Repairman
Automobile Mechanic
Beauty Operator
Claim Adjuster
Counselor, Private Employment Agency
Electrical Technician
Engineer, Stationary
Lithographic Press Plate-Maker
Office-Machine Serviceman
Salesman-Driver
Salesman, Real Estate
Salesperson, Furniture
Salesperson, General Hardware
Salesperson, Sporting Goods
Shoe Repairman
Statistical-Machine Serviceman
Television Service-and-Repairman

Summary Statistics

	Adjusted Value	−1 SE	+1 SE	P	Q	Unadj. Value
1. Ability utilization	1.65	1.55	1.75	0.00	5.36	.91
2. Achievement	1.33	1.25	1.41	0.00	4.36	.60
3. Activity	−.20	−.34	−.07	1.00	.43	−.93
4. Advancement	.29	.17	.40	.54	.65	−.44
5. Authority	−.73	−.82	−.66	1.00	2.28	−1.46
6. Company policies	.55	.46	.64	.08	1.48	−.18
7. Compensation	.50	.38	.61	.38	1.12	−.23
8. Co-workers	.69	.60	.77	.04	1.91	−.04
9. Creativity	1.07	.98	1.16	.04	3.07	.34
10. Independence	1.44	1.34	1.54	0.00	4.28	.71
11. Moral values	.92	.77	1.07	0.00	1.79	.19
12. Recognition	1.02	.92	1.11	.04	2.84	.28
13. Responsibility	1.05	.96	1.15	.04	2.97	.32
14. Security	1.46	1.35	1.57	0.00	4.13	.72
15. Social service	1.13	1.03	1.23	.04	3.01	.40
16. Social status	.36	.24	.48	.38	.79	−.37
17. Supervision-hum.-rel.	.47	.39	.56	.12	1.34	−.26
18. Supervision-technical	.32	.23	.40	.27	.88	−.42
19. Variety	.18	.03	.31	.62	.35	−.55
20. Working conditions	1.35	1.27	1.43	0.00	4.46	.62
21. Autonomy	.94	.84	1.05	.04	2.42	.21
Adjusted neutral point	0.000	−.056	.054			
Unadjusted neutral point	−.731	−.786	−.677			

Profile C-1: Sample profile for the occupation of Barber

As is the case with the above, moderately descriptive characteristics can also be either positive or negative. As indicated in the sample profile, Achievement, Creativity, Independence, Recognition, Responsibility, Security and Social Service are moderately descriptive in the positive sense, whereas Activity and Variety are moderately descriptive in the negative sense.

The remaining reinforcers are neither highly nor moderately descriptive of the work environment of Barbers and are thus less likely to have important effects on the job satisfaction of individuals employed as Barbers.

Similarities among profiles:

For each of the 148 occupations (Borgen, Weiss, Tinsley, Dawis and Lofquist, 1972; Rosen et al., 1972) reference is made to occupations which have similar ORP profiles, i.e. occupations which have similar high and low scale values.

This feature enables the counsellor to identify occupations with ORPs similar to that of any particular occupation.

Continuing research at the WAP is currently extending this range of 148 occupations.

Clusters:

Occupations with similar ORPs form a cluster (it is important to notice that these occupations are similar in terms of reinforcers, but not necessarily in terms of ability requirements).

Occupations in the same cluster share the same descriptive reinforcers. In other words, clusters are simply groups of occupations which have work environments which are similar in terms of their reinforcers (Rosen et al., 1972).

ORP profiles for each of twelve clusters of occupations (these clusters include all 148 occupations for which ORPs are currently available) are available, these being:

Cluster I : Social Service - Security
Cluster II : Security
Cluster III : Security - Working conditions
Cluster IV : Security - Working conditions - Achievement
Cluster V : Security - Social Service
Cluster VI : Security - Achievement
Cluster VII : Achievement
Cluster VIII : Achievement - Compensation
Cluster IX : Achievement - Security
Cluster X : Achievement - Autonomy - Security
Cluster XI : Achievement - Autonomy - Social Service
Cluster XII : Achievement - Autonomy - Social Service - Recognition - Variety

Reliability of ORPs:

The reliability of each ORP was determined by correlating the profiles developed from the split-half subgroups of supervisors for each occupation.

These reliability correlations ranged from 0,78 to 0,98 with a median of 0,91 for samples ranging in size from 11 to 48 supervisors.

These results, compared with a median between-occupation correlation of 0,55 indicated that relatively small samples of supervisors, used to develop ORPs, yielded results generally representative of larger groups (Borgen et al., 1968).

Validity of ORPs:

Evidence for the validity of ORPs was derived from two analyses. Mean scale scores for each of 81 occupational groups on each of the MJDQ scales were compared, using one-way analysis of variance (a scale score is the number of votes given by each supervisor for each MJDQ scale).

Results of this analysis indicated that occupational differences in mean scale scores were highly significant for all the MJDQ scales.

Rank-ordering of scale score means on each scale revealed a pattern of means consistent with the expectation that supervisors were responding meaningfully to the item content of the MJDQ. Mean scale score rank-orders were also consistent with expectations, concerning the comparative reinforcement values for occupations.

Results of the cluster analysis of the 81 profiles were also interpreted as evidence for the validity of MJDQ rankings.

This analysis was concerned with the similarities and differences among the total profiles for the 81 occupations. This analysis yielded nine clusters, accounting for 59 of the 81 jobs. Differences among the mean scale scores for the clusters were highly significant (Borgen et al., 1968).

Vocational Counselling Use of ORP information:

The ORP profiles can be used by counsellors in several ways (Rosen et al., 1972).

Firstly, they provide a visual method of matching counsellee needs with the reinforcers present in various work environments. Counsellee needs (preference for certain work environment reinforcers) are measured on the MIQ.

Secondly, if information about the specific vocational needs of a counsellee is lacking in a particular counselling case (e.g. the counsellor has not administered the MIQ), ORP profiles may still be useful as a source of occupational information.

In addition to other information, such as a counsellee's score on the GATB and the associated OAPs, the counsellee and his counsellor might arrive at a vocational objective.

Thirdly, if the counsellor knows of previous occupations in a client's work history in which he has been satisfied, occupa-

tions with similar ORPs can be found by referring to the profile and accompanying data.

To summarize, the ORPs, presented as graphic profiles, descrip= tive statements or scale values, can be used by counsellors and counsellees either jointly or individually as a source of information to provide direction in vocational counselling and to provide a meaningful basis for the discussion of occupational reinforcers and potential employment satisfaction for counsellees.

(Permission was obtained to have the information contained in this appendix extracted from Borgen et al., 1968 and Rosen et al., 1972).

***

minnesota
job description questionnaire

CONFIDENTIAL

For Research Purposes Only

vocational psychology research
university of minnesota

Form E

Code Number

Please rank the five statements in each *group on the basis of* how well *they* describe *the job written on the third page. Write a "1" by the statement which* best *describes the job; write a "2" by the statement which provides the* next best *description; continue ranking* all *five statements, using a "5" for the statement which describes the job* least well.

Workers on this job . . .

_____are busy all the time.

_____have work where they do things for other people.

_____try out their own ideas.

_____are paid well in comparison with other workers.

_____have opportunities for advancement.

Workers on this job . . .

_____have work where they do things for other people.

_____have something different to do every day.

_____get a feeling of accomplishment.

_____have bosses who train their men well.

_____have a company which administers its policies fairly.

Workers on this job . . .

_____do work without feeling that it is morally wrong.

_____have bosses who back up their men (with top management).

_____have something different to do every day.

_____make use of their individual abilities.

_____are busy all the time.

Workers on this job . . .

_____have a company which administers its policies fairly.

_____try out their own ideas.

_____make use of their individual abilities.

_____have co-workers who are easy to make friends with.

_____have the position of "somebody" in the community.

APPENDIX D

THE MINNESOTA SATISFACTION QUESTIONNAIRE (MSQ)

The MSQ comes in two forms, a twenty-scale long form (1963 and 1967 revisions) and a three-scale short form.

This questionnaire makes it possible to obtain a more individualized picture of worker satisfaction than was possible using gross or more general measures of satisfaction with the job as a whole.

This individualized measurement is useful because two individuals may express the same amount of general satisfaction with their work, but for entirely different reasons (Weiss, Dawis, England and Lofquist, 1967).

Description:

The long-form MSQ consists of 100 items, each one referring to a reinforcer in the work environment.

The respondent indicates how satisfied he is with the reinforcer in his present job. Five response alternatives are presented for each item:

- not satisfied
- only slightly satisfied
- satisfied
- very satisfied
- extremely satisfied

Each long-form MSQ scale consists of five items. The items appear in blocks of 20 with items constituting a given scale appearing at 20-item intervals.

Following is a list of the MSQ scales (in alphabetical order):

	Scale	Item
1.	Ability utilization	the chance to do something that makes use of my abilities
2.	Achievement	the feeling of accomplishment I get from the job
3.	Activity	being able to keep busy all the time
4.	Advancement	the chances for advancement on this job
5.	Authority	the chance to tell other people what to do
6.	Company policies and prac=tices	the way company policies are put into practice
7.	Compensation	my pay and the amount of work I do
8.	Co-workers	the way my co-workers get along with each other
9.	Creativity	the chance to try my own methods of doing the job
10.	Independence	chance to work alone on the job
11.	Moral values	being able to do things that do not go against my conscience
12.	Recognition	the praise I get for doing a good job
13.	Responsibility	the freedom to use my own judg=ment
14.	Security	the way my job provides for steady employment
15.	Social service	the change to do things for other people
16.	Social status	the chance to be "somebody" in the community
17.	Supervision-Human Relations	the way my boss handles his men
18.	Supervision-technical	the competence of my supervisor in making decisions
19.	Variety	the chance to do different things from time to time
20.	Working conditions	the working conditions

A copy of the long-form MSQ (1967 revision) instruction page and the first page of items appear in this appendix.

Administration:

Both forms of the MSQ are self-administering. Directions for the respondent appear on the first page of the questionnaire. Item rating instructions are repeated at the top of each page.

There is no time limit for the MSQ. However, experience with the long-form MSQ indicates that the average employee can com= plete the questionnaire in from 15 to 20 minutes.

Scoring:

The MSQ can either be hand-scored or computer-scored. Special hand-scoring forms are available.

Response choices for both forms of the MSQ are weighted in the following manner:

Response Choice	Scoring Weight
Not satisfied	1
Only slightly satisfied	2
Satisfied	3
Very satisfied	4
Extremely satisfied	5

Thus responses are scored "1" through "5" proceeding from left to right in the answer spaces. Scale scores are determined by totalling the weights for the responses chosen for the items in each scale.

Reliability:

a) Internal consistency:

Data on the internal consistency reliability (supplied in the manual) of the long-form MSQ as estimated by Hoyt's analysis-

of-variance method, indicates that these Hoyt reliability coef= ficients for the MSQ scales range from a high 0,97 on Ability utilization (for both stenographers and typists) and on Working condition (for Social workers) to a low of 0,59 on Variety (for buyers).

The median Hoyt reliability coefficients range from 0,93 for Advancement and Recognition to 0,78 for Responsibility.

Of the 567 Hoyt reliability coefficients reported in the manual (27 normative groups with 21 scales each) 83 percent were 0,83 or higher and only 2,5 percent were lower that 0,70.

This suggests that in general the MSQ scales have adequate in= ternal consistency reliabilities.

b) Stability:

Data on the stability of the scores on the 20 MSQ scales was obtained for two time intervals - one week and one year.

For a one-week interval stability coefficients ranged from 0,66 for Co-workers to 0,91 for Working conditions. Median coefficient was 0,83.

Test-retest correlations for a one-year interval ranged from 0,35 for Independence to 0,71 for Ability utilization. Median stability coefficient for the 20 scales was 0,61.

In both cases the General Satisfaction Scale (which constitutes the twenty-first scale) was excluded.

Canonical correlation analysis of the test-retest data yielded maximum coefficients of 0,97 over the one-week interval and 0,89 over the one-year interval.

Validity:

a) Construct validity

Much of the evidence supporting construct validity for the

MSQ is derived indirectly from construct validation studies of the MIQ, based on the Theory of Work Adjustment.

Analyses of the data yielded by such studies have shown good evidence of construct validity for the Ability utilization, Advancement and Variety scales of the MIQ and therefore in= directly for the same scales of the MSQ.

Some evidence of construct validity was also observed for se= veral other scales. Results from studies reported in Monograph XIX indicate that the MSQ measures satisfaction in accordance with expectations from the Theory of Work Adjustment.

b) Concurrent validity

Evidence for the concurrent validity of the MSQ is derived from the study of group differences in satisfaction, especially oc= cupational differences in satisfaction.

Data for 25 occupational groups was analysed by one-way analysis of variance (to test differences in level of expressed satis= faction) and by Bartlett's test of homogeneity of variance (to test differences in group variabilities).

Results indicated that group differences (among the 25 occupa= tional groups) were statistically significant at the 0,001 level for both means and variances on all 21 MSQ scales.

This indicates that the MSQ can differentiate among occupational groups.

c) Content validity:

Factor analytic results may be used to support the content va= lidity of the MSQ.

Intercorrelations of the 21 MSQ scales were computed for 14 norm groups, each group consisting of at least 100 individuals.

The intercorrelation matrices were factor analyzed utilizing a principal factors solution, with squared multiple correlations in the diagonal, the Kaiser criterion for number of factors to extract and rotation to a varimax solution.

The results of the factor analyses in general indicate that about half of the common MSQ scale score variance can be repre= sented by an extrinsic satisfaction factor, defined by the two supervision scales, Company policies and practices, Working conditions, Advancement, Compensation and Security.

The remaining scales define one or more intrinsic satisfaction factors, accounting for the other half of the common variance. These results also indicate that the factor structure of satis= faction varies among occupational groups.

Vocational Counselling Use of the MSQ:

This measure of job satisfaction provides one concrete quality outcome measure against which the effectiveness of counsellors and/or specific counselling techniques can be evaluated.

It also enables the individual counsellor to gauge his effecti= veness in assisting clients to find jobs, which take account of their individual needs.

In addition, data from systematic follow-up of client satisfac= tion, and the normative data supplied in the manual, should help counsellors to learn a great deal about the different re= inforcers present in the large variety of jobs that exist.

This additional knowledge should facilitate the development of vocational plans that will enhance both client satisfaction and client tenure on the job (Weiss et al., 1967).

(Permission was obtained to have the information contained in this appendix extracted from Weiss et al., 1967).

minnesota satisfaction questionnaire

1967 Revision

Vocational Psychology Research

UNIVERSITY OF MINNESOTA

*Ask yourself: How **satisfied** am I with this aspect of my job?*

1 means I am ***not satisfied*** (this aspect of my job is much poorer than I would like it to be).
2 means I am ***only slightly satisfied*** (this aspect of my job is not quite what I would like it to be).
3 means I am ***satisfied*** (this aspect of my job is what I would like it to be).
4 means I am ***very satisfied*** (this aspect of my job is even better than I expected it to be).
5 means I am ***extremely satisfied*** (this aspect of my job is much better than I hoped it could be).

On my present job, this is how I feel about . . .	For each statement circle a number.				
1. The chance to be of service to others.	1	2	3	4	5
2. The chance to try out some of my own ideas.	1	2	3	4	5
3. Being able to do the job without feeling it is morally wrong.	1	2	3	4	5
4. The chance to work by myself.	1	2	3	4	5
5. The variety in my work.	1	2	3	4	5
6. The chance to have other workers look to me for direction.	1	2	3	4	5
7. The chance to do the kind of work that I do best.	1	2	3	4	5
8. The social position in the community that goes with the job.	1	2	3	4	5
9. The policies and practices toward employees of this company.	1	2	3	4	5
10. The way my supervisor and I understand each other.	1	2	3	4	5
11. My job security.	1	2	3	4	5
12. The amount of pay for the work I do.	1	2	3	4	5
13. The working conditions (heating, lighting, ventilation, etc.) on this job.	1	2	3	4	5
14. The opportunities for advancement on this job.	1	2	3	4	5
15. The technical "know-how" of my supervisor.	1	2	3	4	5
16. The spirit of cooperation among my co-workers.	1	2	3	4	5
17. The chance to be responsible for planning my work.	1	2	3	4	5
18. The way I am noticed when I do a good job.	1	2	3	4	5
19. Being able to see the results of the work I do.	1	2	3	4	5
20. The chance to be active much of the time.	1	2	3	4	5
21. The chance to be of service to people.	1	2	3	4	5
22. The chance to do new and original things on my own.	1	2	3	4	5
23. Being able to do things that don't go against my religious beliefs.	1	2	3	4	5
24. The chance to work alone on the job.	1	2	3	4	5
25. The chance to do different things from time to time.	1	2	3	4	5

APPENDIX E

THE MINNESOTA IMPORTANCE QUESTIONNAIRE (MIQ)

The MIQ was developed within the framework of the Theory of Work Adjustment and has since its initial publication in 1964 undergone several revisions and changes. For the use of this study, the 1967 revision was used.

Description:

The 1967 revision of the MIQ is a 210-item pair-comparison instrument, designed to measure twenty vocationally-relevant need dimensions (Gay, Weiss, Hendel, Dawis and Lofquist, 1971).

These need dimensions refer to specific reinforcing conditions which have been found to be important to job satisfaction. The statement representing each dimension was chosen from analyses of an earlier Likert form of the MIQ (also see Weiss, in Zytowski, 1973) as that statement which best represents the scale.

The statements used to represent each of the twenty vocational needs in the 1967 revision are as follow:

	Scale	Item
1.	Ability utilization	I could do something that makes use of my abilities
2.	Achievement	the job could give me a feeling of accomplishment
3.	Activity	I could be busy all the time
4.	Advancement	the job would provide an opportunity for advancement
5.	Authority	I could tell people what to do
6.	Company policies and practices	the company would administer its policies fairly
7.	Compensation	my pay would compare well with that of other workers

8.	Co-workers	my co-workers would be easy to make friends with
9.	Creativity	I could try out some of my own ideas
10.	Independence	I could work alone on the job
11.	Moral values	I could do the work without feeling it is morally wrong
12.	Recognition	I could get recognition for the work I do
13.	Responsibility	I could make decisions on my own
14.	Security	the job would provide for steady employment
15.	Social service	I could do things for other people
16.	Social status	I could be "somebody" in the community
17.	Supervision-Human Relations	my boss would back up his men (with top management)
18.	Supervision-technical ..	my boss would train his men well
19.	Variety	I could do something different every day
20.	Working conditions	the job would have good working conditions.

Each of the twenty statements listed above is paired with every other statement, thus yielding 190 pairs, each pair constituting an item.

Order of presentation of statements for each pair is random. The items are sequenced so that the same statement does not appear in two consecutive items.

For these 190 items the individual is asked to choose the statement of the pair which represents the <u>most important</u> characteristic of his <u>ideal</u> job.

For items 191-210 the individual is asked to indicate whether or not each of the twenty need dimensions is important or not important in his ideal job.

Thus, for the first 190 items the individual is asked to make comparative judgments, but for the last twenty items he/she is asked to make absolute judgments.

The MIQ items are presented in a re-usable booklet. The individual records his responses on a separate answer sheet.

A copy of the MIQ instruction page and the first page of items are contained in this appendix.

Administration:

The MIQ is a self-administering paper-and-pencil instrument, which takes about 30-40 minutes to complete. All necessary instructions appear in the booklet.

Scoring:

The MIQ can either be hand-scored or computer-scored. In the case of hand-scoring, the basic scoring of the MIQ includes computation of adjusted scale values for the twenty vocational need scales and a total circular triads (TCT) score. In addition, error bands are computed around the individually adjusted scale values.

Because of the fact that hand-scoring of the MIQ is likely to result in many clerical errors, resulting from the complexities of the calculations involved, the WAP has developed a computer scoring service for the MIQ, which provides a three-page computer-printed report for each individual.

Interpretation:

In the interpretation of the MIQ, the following summary might be useful to the user:

1. The MIQ is a self-report instrument and therefore its validity depends to a significant extent on the full cooperation of the responding individual.

2. In the MIQ the individual reports this vocational needs, that is, his preferences for occupational reinforcers. The structure (format and scoring system) of the MIQ is designed to facilitate the meaningful reporting of such preferences.

3. The adjusted scale values indicate the level of importance of the individual's reinforcer preferences, with reference to his own zero point (no preference one way or the other).

   An adjusted scale value of 1,5 or higher indicates a reinforcer of high importance to the individual, whereas a value of 1,0 to 1,5 indicates a reinforcer of moderate importance, a value of 0,0 to 0,3 is of low importance and a value below 0,0 is of very low importance.

4. A circular triad score (TCT) of 255 or higher indicates an invalid MIQ profile, that may be due to true random responding or to pseudo-random responding. In the latter case the computer report will show the stimulus circular triad score, which indicates those scales (statements about reinforcers) that cause trouble or difficulty for the individual.

Reliability:

The reliability of the MIQ can be evaluated in three ways:

1) the internal consistency of the scales;
2) the stability of MIQ scale scores over time; and
3) the stability of MIQ profiles over time.

These three types of reliability can be studied separately, but their interrelationships are also meaningful. Reliability data on the 1967 MIQ supports the conclusion that it is reliable enough to be useful to the vocational counsellor.

1) Scale Internal Consistency:

Scale internal consistency was investigated by calculating the

Hoyt reliability coefficient for each MIQ scale for each of nine different subject groups, used by Hendel and Weiss (1970, in Gay et al., 1971).

The median scale Hoyt reliability coefficients for the nine groups ranged from 0,77 to 0,81. The lowest reported single scale reliability for any group was 0,30 and the highest (found in three groups) was 0,95.

This indicates that the individual scales have sufficient internal consistency reliability to meet usually accepted standards.

2) Stability of MIQ Scale Scores:

Hendel and Weiss also investigated the stability of MIQ scale scores for different test-retest intervals, ranging from an immediate retesting for one group to a ten-month retest for another group.

The median scale stability coefficients ranged from 0,48 for a six-month interval to 0,89 for immediate retesting. The lowest reported scale stability coefficient was 0,19 (for a nine-month interval) and the highest was 0,93 (in immediate retest). The range of scale stability coefficients for the longest interval studied (ten months) was from 0,46 to 0,79 with a median of 0,53.

3) Stability of MIQ Profiles

From a counselling point of view, the stability of score profiles is at least as important as that of scale scores.

Hendel and Weiss (1970, Gay et al., 1971) found the median stability coefficients ranging from 0,95 (for immediate retest) to 0,70 (for the four-month retest interval group).

The lowest profile stability coefficient reported for one individual was -0,44 (in the six-month retest group) and the highest 0,98 (in the one-week and two-week interval groups).

For the ten-month retest interval (the longest interval studied) profile stability correlations ranged from 0,58 to 0,97 with a median of 0,87.

These results indicate that for most people MIQ profiles are relatively stable over periods approaching one year. The data also shows that MIQ profiles are more stable than MIQ scale scores, suggesting that profile analysis is a more useful basis for interpretation than the analysis of scale scores.

Validity:

Evidence of the validity of the 1967 MIQ is provided in a number of ways. These are grouped into three sections to facilitate presentation.

a) Structural Evidence of Validity:

The manner in which an instrument is constructed and its resulting properties provide some evidence for its validity.

In this respect, the reliability of the instrument is one essential and necessary (though not sufficient) condition for its validity. As already described, the MIQ thus adequately meets this criterion.

The discriminant validity of the MIQ scales is another desired structural property, which is reflected in the scale intercorrelations and the factor structure of the MIQ scales.

Discriminant validity for the MIQ is also shown in research done by Weiss, Dawis and England (1966, in Gay et al., 1971).

Evidence of convergent validity for the MIQ is provided by the findings of Thorndike, Weiss and Dawis (1968, in Gay et al., 1971). Using the 1965 form of the MIQ, they report canonical correlations of 0,78 and 0,74 with the Strong Vocational Interest Blank (SVIB) for groups of college students and Division of Vocational Rehabilitation applicants respectively.

b) Evidence from Earlier Forms:

This evidence is of two types - group differences and confir= mation of hypotheses from the Theory of Work Adjustment.

Strictly speaking, however, this evidence does not concern the 1967 MIQ and will subsequently not be discussed. For further detail see Gay et al. (1971: pp.47-48).

c) Validity Evidence for the 1967 Form:

Validity evidence for the 1967 MIQ follows much the same pat= tern as that for earlier forms, i.e., validation by way of group differences and tests of hypotheses from the Theory of Work Adjustment.

Presently, only validity of the concurrent type is available. Due to the newness of the instrument, predictive studies have not yet been completed. However, data are available on nine different groups. Further detail can be found in Gay et al. (1971: pp.49-55).

Vocational Counselling Use of the MIQ:

The major use of the MIQ in vocational counselling is to measure the vocational needs of the counsellee.

As a measure of vocational needs, the MIQ's main usefulness lies in vocational planning. With the MIQ, the vocational counsel= lor can help the counsellee look at jobs in terms of the cor= respondence of the jobs' reinforcer systems and his (the coun= sellee's) vocational needs.

The computer report for the MIQ will help in accomplishing the above mentioned and also aid the counsellor in helping the client to decide on the occupation(s) in which he would most likely be both satisfied and satisfactory.

The MIQ can also be used by the vocational counsellor to prepare for the counselling relationship. For example, the high scale

values on the MIQ indicate which reinforcers might be effective in the counselling situation.

High scores on Responsibility, Creativity and Authority might indicate a counsellee who prefers doing things on his own and making his own decisions. Another example would be high scores on Activity, Independence and Variety, indicating a counsellee who is relatively impatient, who might want immediate action. Thus the counsellor could utilize the MIQ-inferred reinforcers to influence the counselling process.

In the case of a disabled counsellee, the MIQ could be used to assess the impact of the disability, thereby showing the changes in the counsellee's vocational needs since the onset of the disability.

Pre-disability needs might be inferred from the ORPs of satis= fying jobs previously held by the counsellee. Comparison of pre- and post-disability needs might provide useful insights in= to the impact of becoming disabled, also aiding the counsellor in vocational planning with the counsellee.

Finally, the MIQ can be used to help a client plan effective and satisfying use of his non-work time. This can be especial= ly helpful when the nature of the client's disability limits his choice of jobs which are not satisfying for him.

Non-work acitivities can then be chosen which would provide him with satisfaction for those needs which are not satisfied at work. The latter can of course also be applied to non-dis= abled counsellees (Gay et al., 1971).

(Permission was obtained to have the information contained in this appendix extracted from Gay et al., 1971).

Do not write on this booklet

minnesota importance questionnaire

1975 Edition

paired form

Vocational Psychology Research

UNIVERSITY OF MINNESOTA

Ask yourself: Which is ***more important*** to me in my ***ideal*** job?

1. a. I could be busy all the time.
   OR
   b. The job would provide an opportunity for advancement.

2. a. I could try out some of my own ideas.
   OR
   b. My co-workers would be easy to make friends with.

3. a. The job could give me a feeling of accomplishment.
   OR
   b. I could do something that makes use of my abilities.

4. a. The company would administer its policies fairly.
   OR
   b. I could be busy all the time.

5. a. I could try out some of my own ideas.
   OR
   b. I could be "somebody" in the community.

6. a. The job would provide an opportunity for advancement.
   OR
   b. My co-workers would be easy to make friends with.

7. a. I could tell people what to do.
   OR
   b. I could work alone on the job.

8. a. I could get recognition for the work I do.
   OR
   b. The company would administer its policies fairly.

9. a. My co-workers would be easy to make friends with.
   OR
   b. The job would provide for steady employment.

10. a. The job could give me a feeling of accomplishment.
    OR
    b. The job would provide an opportunity for advancement.

11. a. My boss would train the workers well.
    OR
    b. I could work alone on the job.

12. a. I could do the work without feeling that it is morally wrong.
    OR
    b. The job would have good working conditions.

answer sheet
for the

Minnesota Importance Questionnaire

1967 Revision
or
1975 Edition

. 1799 .

Name _____ Today's Date _____ 19__
First Middle Last

Circle the number of years of school you completed

4 5 6 7 8 Grade School — 9 10 11 12 High School — 13 14 15 16 College — 17 18 19 20 Graduate or Professional School

Date of birth _____ 19__

Sex: (check one) Male _____ Female _____

Occupation _____

How long have you been in this occupation? _____ years _____ months

page 1	a 1 b	a 2 b	a 3 b	a 4 b	a 5 b	a 6 b	a 7 b	a 8 b	a 9 b	a 10 b	a 11 b	a 12 b	page 2	a 13 b	a 14 b	a 15 b	a 16 b	a 17 b	a 18 b	a 19 b	a 20 b	a 21 b	a 22 b	a 23 b	a 24 b
page 3	a 25 b	a 26 b	a 27 b	a 28 b	a 29 b	a 30 b	a 31 b	a 32 b	a 33 b	a 34 b	a 35 b	a 36 b	page 4	a 37 b	a 38 b	a 39 b	a 40 b	a 41 b	a 42 b	a 43 b	a 44 b	a 45 b	a 46 b	a 47 b	a 48 b
page 5	a 49 b	a 50 b	a 51 b	a 52 b	a 53 b	a 54 b	a 55 b	a 56 b	a 57 b	a 58 b	a 59 b	a 60 b	page 6	a 61 b	a 62 b	a 63 b	a 64 b	a 65 b	a 66 b	a 67 b	a 68 b	a 69 b	a 70 b	a 71 b	a 72 b
page 7	a 73 b	a 74 b	a 75 b	a 76 b	a 77 b	a 78 b	a 79 b	a 80 b	a 81 b	a 82 b	a 83 b	a 84 b	page 8	a 85 b	a 86 b	a 87 b	a 88 b	a 89 b	a 90 b	a 91 b	a 92 b	a 93 b	a 94 b	a 95 b	a 96 b
page 9	a 97 b	a 98 b	a 99 b	a 100 b	a 101 b	a 102 b	a 103 b	a 104 b	a 105 b	a 106 b	a 107 b	a 108 b	page 10	a 109 b	a 110 b	a 111 b	a 112 b	a 113 b	a 114 b	a 115 b	a 116 b	a 117 b	a 118 b	a 119 b	a 120 b
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page 13	a 145 b	a 146 b	a 147 b	a 148 b	a 149 b	a 150 b	a 151 b	a 152 b	a 153 b	a 154 b	a 155 b	a 156 b	page 14	a 157 b	a 158 b	a 159 b	a 160 b	a 161 b	a 162 b	a 163 b	a 164 b	a 165 b	a 166 b	a 167 b	a 168 b
page 15	a 169 b	a 170 b	a 171 b	a 172 b	a 173 b	a 174 b	a 175 b	a 176 b	a 177 b	a 178 b	a 179 b	a 180 b	page 16	a 181 b	a 182 b	a 183 b	a 184 b	a 185 b	a 186 b	a 187 b	a 188 b	a 189 b	a 190 b	Continue on the next page	
page 17	yes 191 no	yes 192 no	yes 193 no	yes 194 no	yes 195 no	yes 196 no	yes 197 no	yes 198 no	yes 199 no	yes 200 no	yes 201 no	yes 202 no	yes 203 no	yes 204 no	yes 205 no	yes 206 no	yes 207 no	yes 208 no	yes 209 no	yes 210 no					

Vocational Psychology Research
Elliott Hall
University of Minnesota
Minneapolis, Minnesota 55455

APPENDIX F

LETTER A: INTRODUCTORY LETTER

c/o Department of Psychology
University of Stellenbosch
STELLENBOSCH

.....

Dear

For several years now researchers have been studying factors related to job satisfaction, the interest being what it is about a job that makes employees happy in their jobs.

In order to learn more about these factors information from the employees is needed. Eventually this information will be used by vocational guidance counsellors to help people select occupa= tions which are most suited to their needs.

For the above mentioned reason you were chosen to participate in a research project concerning the compilation of information needed.

You will shortly be receiving more information regarding the completion of certain questionnaires.

Your assistance and cooperation will be appreciated.

Thanking you in advance.

Yours faithfully

ERROL VAN STADEN

LETTER B + QUESTIONNAIRE

c/o Department of Psychology
University of Stellenbosch
STELLENBOSCH

.....

Dear

As you know, the problem of choosing an occupation is of major concern to almost everyone at various stages in life.

My research is an attempt to discover ways of making this choice easier and more meaningful. With your experience of this job, your opinions of it are particularly valuable to this research.

Enclosed please find .... questionnaire(s), which I hope you will be able to complete at your earliest convenience. If possible, could you complete the questionnaire(s) immediately, and return them by campus mail, using the enclosed envelope?

Your response will be held in complete confidence and will be used for research purposes only.

Will you please help me so that the results of this study will be as complete as possible?

Thank you very much.

ERROL VAN STADEN

SUPPLEMENT TO B + QUESTIONNAIRES

ADDITIONAL INFORMATION

When, in the questionnaire(es), reference is made to the fol= lowing, the corresponding description should be borne in mind:

1) For the use of this research project all professors are regarded as supervisors (of employees) and the rest of the academic personnel as employees (of the University of Stellenbosch).

2) Bosses refers to supervisors (professors)
Company refers to the University of Stellenbosch
Top management refers to the University Council
Men refers to employees.

3) This research project is done in collaboration with the Vocational Psychology Research Project at the University of Minnesota, Minneapolis, U.S.A.

These questionnaires will be returned to Minneapolis for scoring purposes. Your cooperation in the completion of the questionnaires will thus greatly be appreciated.

***

LETTER C + D: FOLLOW-UP — IF NO RESPONSE

c/o Department of Psychology
University of Stellenbosch
STELLENBOSCH

.....

Dear

I have recently mailed you questionnaires which complete my study of job characteristics and worker needs. While the response has been good, I still need YOUR ratings.

If you have not done so already, could you please complete the questionnaires and return them to me (by campus mail), so that others may benefit from your experience as a worker in your job.

Thank you very much for your cooperation.

ERROL VAN STADEN

P.S. If you did not receive the questionnaire(s) or have lost them, please call me at 021-994107 or contact Dr. E.M. Nel at the Department of Psychology.

LETTER E: ACKNOWLEDGEMENT

c/o Department of Psychology
University of Stellenbosch
STELLENBOSCH

.....

Dear

This is just to thank you for your cooperation in my recent research project, concerning the job satisfaction and needs of employees working in your field.

Your assistance is greatly appreciated.

Yours faithfully

ERROL VAN STADEN